

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

**RADIO INSTALLATION PROCEDURES FOR THE
HIGH MOBILITY, MULTIPURPOSE WHEELED
VEHICLES (HMMWV)**

**TRUCK, UTILITY, CARGO, TROOP CARRIER 1-1/4 TON
4x4, W/E, M998**

**TRUCK, UTILITY, CARGO, TROOP CARRIER 1-1/4 TON
4x4, W/E, W/W, M1038**

TRUCK, UTILITY, ARMORED, 1-1/4 TON 4x4, W/E, M1025

**TRUCK, UTILITY, ARMAMENT CARRIER, ARMORED,
1-1/4 TON 4x4, W/E, W/W,
M1026**

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HEADQUARTERS, DEPARTMENT OF THE ARMY, WASHINGTON, DC

15 APRIL 1986

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No. 1

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DEPARTMENT OF THE ARMY
Washington, DC, 15 April 1988

TECHNICAL BULLETIN

RADIO INSTALLATION PROCEDURES FOR THE HIGH MOBILITY, MULTIPURPOSE WHEELED VEHICLES (HMMWV) TRUCK UTILITY, CARGO, TROOP CARRIER 1 1/4 TON 4X4, W/E, M998 TRUCK UTILITY, CARGO, TROOP CARRIER 1 1/4 TON 4X4, W/E, W/W M1083 TRUCK UTILITY, ARMORED, 1 1/4 TON 4X4, W/E M1025 TRUCK UTILITY, ARMAMENT CARRIER, ARMORED, 1 1/4 TON, 4X4 W/E, W/W M1026

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TECHNICAL BULLETIN)
)
 No. 11-2300-478-30-1)

HEADQUARTERS
 DEPARTMENT OF THE ARMY
 Washington, DC, 15 April 1986

RADIO INSTALLATION PROCEDURES
 FOR THE
 HIGH MOBILITY, MULTIPURPOSE WHEELED VEHICLES (HMMWV)
 TRUCK UTILITY, CARGO, TROOP CARRIER
 1 1/4 TON 4X4, W/E, M998
 TRUCK UTILITY, CARGO, TROOP CARRIER
 1 1/4 TON 4X4, W/E, W/W M1038
 TRUCK UTILITY, ARMORED, 1 1/4 TON
 4x4, W/E M1025
 TRUCK UTILITY, ARMAMENT CARRIER,
 ARMORED, 1 1/4 TON, 4X4 W/E,
 W/W M1026

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP, Fort Monmouth, New Jersey 07703-5000.

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Chapter 1. INTRODUCTION

1-1 SCOPE

a. This technical bulletin provides information and drawing packages for the transfer and installation of the following radio sets and COMSEC Vinson equipment.

RADIO	NSN
AN/VRC-12	5820-00-223-7412
AN/VRC-43	5820-00-223-7415
AN/VRC-44	5820-00-223-7417
AN/VRC-46	5820-00-223-7433
AN/VRC-47	5820-00-223-7434
AN/VRC-48	5820-00-223-7435
AN/VRC-49	5820-00-223-7437
AN/VRC-64	5820-00-223-7475
AN/GRC-106	5820-00-402-2263
AN/GRC-106A	5820-00-223-7473
AN/GRC-160	5820-00-223-7548
TSEC/KY-57	COMSEC Vinson

CAUTION

The AN/GRC-106, -106A require optional 100 AMP alternator, NSN 2920-01-199-2393

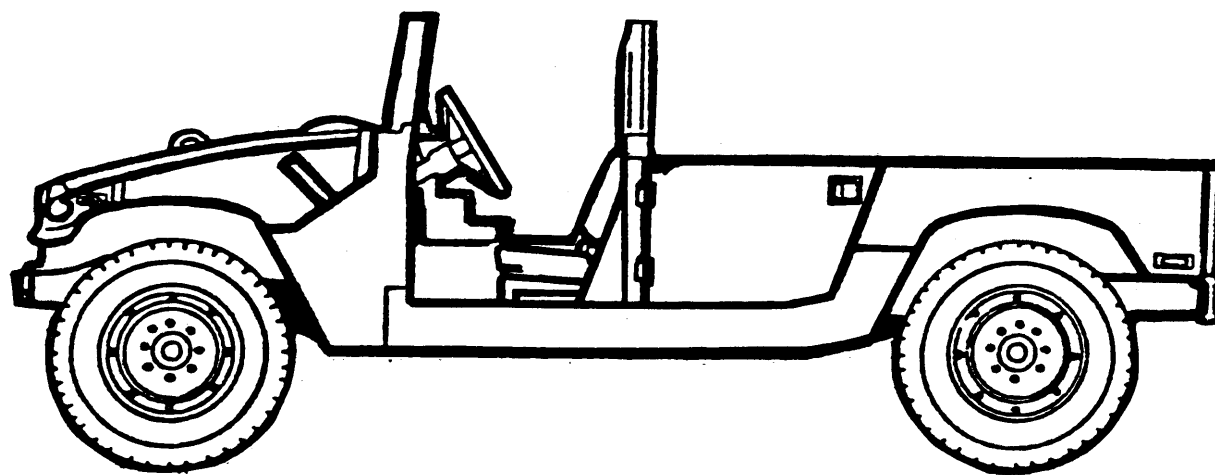
b. The radio sets and COMSEC Vinson equipment will be removed from the following trucks.

- (1) Truck, Utility 1/4 ton 4x4 M151
- (2) Truck, Cargo 1 1/4 ton 6x6 M561

c. The radio sets and COMSEC Vinson equipments shall be installed into the following High Mobility, Multipurpose Wheeled Vehicles (HMMWVs).

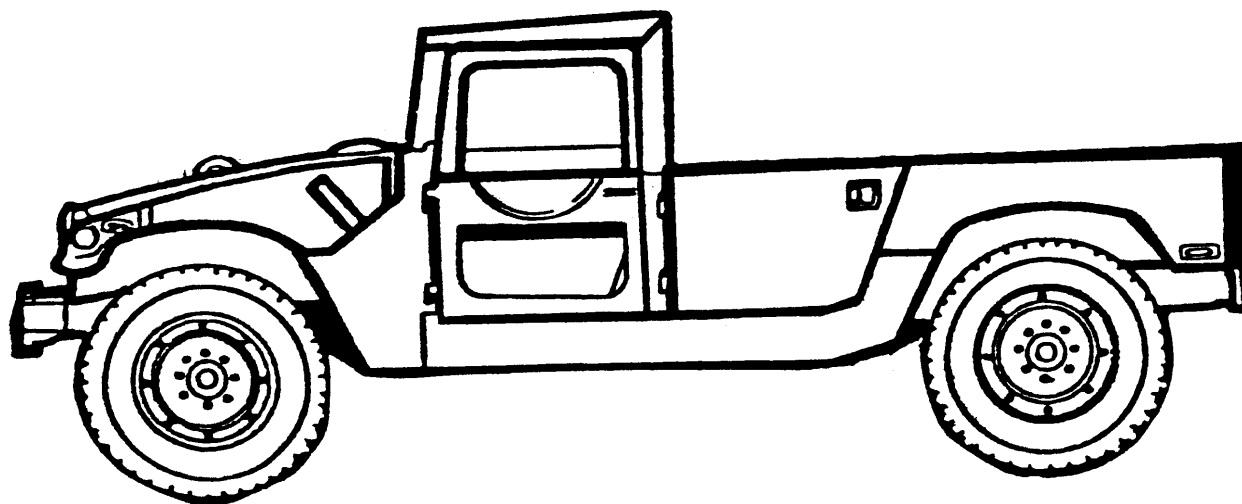
- (1) Truck Utility, Cargo, Troop Carrier 1 1/4 Ton 4X4, W/E, M998 (Fig. 1-1)
- (2) Truck Utility, Cargo, Troop Carrier 1 1/4 Ton 4X4, W/E, W/W M1038 (Fig. 1-2)
- (3) Truck Utility, Armored, 1 1/4 Ton 4X4, W/E M1025 (Fig. 1-3)
- (4) Truck Utility, Armament Carrier, Armored, 1 1/4 Ton, 4X4 W/E, W/W M1026 (Fig. 1-4)

d. The installation information contained in this Technical Bulletin is the official authorization to perform the transfer and installation at the Intermediate Direct Support Maintenance Level.



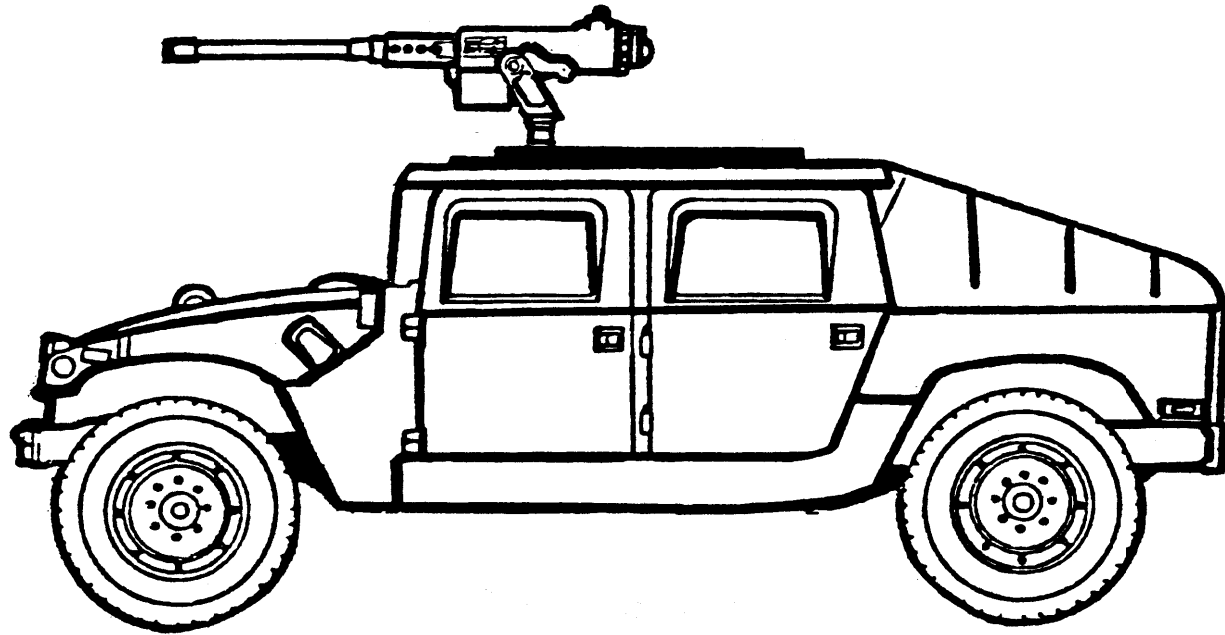
CE ORJ001

Figure 1-1. Truck, Utility Cargo, Troop Carrier, 1 1/4 Ton, 4x4, W/E, M998.



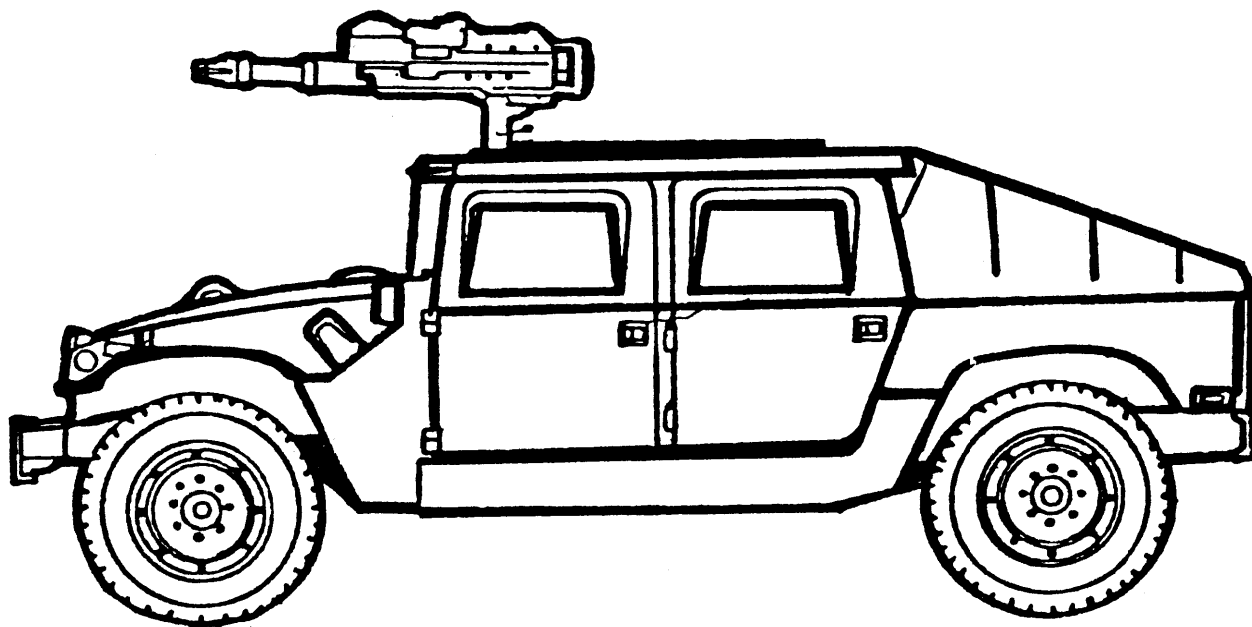
CE ORJ002

Figure 1-2. Truck, Utility Cargo, Troop Carrier, 1 1/4 Ton, 4x4, W/E, W/W, M1038.



CE ORJ003

Figure 1-3. Truck, Utility Armored, 1 1/4 Ton, 4x4, W/E, M1025.



CE ORJ004

Figure 1-4. Truck, Utility Armament Carrier, Armored, 1 1/4 Ton, 4x4, W/E, W/W, M1026.

NOTES

1. This Technical Bulletin IS NOT an authorization for requisition or turn-in of vehicles.
2. This Technical Bulletin DOES NOT establish quantity or types of vehicles assigned to using units.
3. This Technical Bulletin IS NOT an authorization for requisition or turn-in of radio sets or COMSEC Vinson equipment.
4. This Technical Bulletin DOES NOT establish quantity or types of radio sets or COMSEC Vinson equipment assigned to using units.

e. The identifying feature of the HMMWV radio installation is the antenna mounting bracket located at the rear roadside and rear curbside of the vehicle, the radio shelf located in the front center between the driver and front seat passenger, and the radio shelf on the rear roadside wheel well.

1-2 GENERAL INFORMATION

- a. The radio set becomes operable when all the components are installed in the HMMWV and the correct power is applied.
- b. After installation, the radio set becomes part of the vehicle unit the vehicle is turned in by the using unit. The radio set and components used with the radio set (property book hand receipt items) shall be removed prior to vehicle turn-in. Refer to SB 11-131.
- c. When various components of vehicular radio sets are transferred and installed in the HMMWVS for specific applications, unused components may be generated. These excess components will be processed in accordance with Chapter 7, AR 725-50.

1-3 REFERENCES

- a. DA PAM 310-1 (Microfiche), Consolidated Index of Army Publications and Blank Forms*
- b. AR 725-50, Requisitioning, Receipt and Issuing System in **UPDATE**.
- c. SB 11-131, Vehicular Radio
- d. AR 710-2, Supply Policy Below The Wholesale Level as contained in Unit Supply **UPDATE**.
- e. DA PAM 710-2-1, Using Unit Supply System Manual Procedures as contained in Unit Supply **UPDATE**.
- f. Army Master Data File (AMDF) (Microfiche).

1-4 MAINTENANCE FORMS AND RECORDS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750 as contained in Maintenance Management UPDATE.

Chapter 2. INSTALLATION

2-1 RECOVERABILITY AND REQUISITIONING

a. Recoverability of Previously Installed Components.

(1) Tables 2-1 through 2-3 show those items which must be removed from the previous radio set installation and used with the newly furnished components to complete the transfer and installation of the radio sets in the HMMWVS.

(2) The radio sets, mountings, antennas, and associated hardware (Figs. 2-1 through 2-6) will be removed and retained for all HMMWV installations. In the event that HMMWVS are not issued on a one to one exchange basis, contact your property book officer for disposition of radio sets and COMSEC Vinson equipment. Refer to AR 710-2 and DA PAM 710-2-1 as changed by Unit Supply UPDATE.

b. Requisition of Installation Kits.

(1) Transition kits may be requisitioned if you have existing vehicles with radio installations that are to be replaced by HMMWVS M998, M1038, M1025 and M1026.

(2) Complete kits may be requisitioned only when a HMMWV M998, M1038, M1025 and M1026 is not replacing an existing vehicle, and radio installations are required in the HMMWV M998, M1038, M1025 and M1026 or a HMMWV M998, M1038, M1025 and M1026 is replacing an existing vehicle that has no radio installation and a radio installation is required in the HMMWV M998, M1038, M1025 and M1026.

(3) The units will need two each loop clamps, NSN 5340-00-984-8540, for the antenna tiedown per HMMWV. These clamps will be installed under existing bolts located on the side of the HMMWV. Refer to Antenna Tiedown Drawing A3046217 (Fig. 2-7) for approximate location.

(4) For dual radio installation, when two single radios are installed (i.e., two each AN/VRC-46), an additional Power Crossover Cable CX-4721, NSN 5995-00-823-2725, must be requisitioned through normal supply channels.

(5) The AN/GRC-106, -106A is installed on the rear roadside sponson. 

(6) The AN/GRC-106, -106A requires the optional 100 AMP alternator. The 100 AMP alternator is available under NSN 2920-01-199-2393 through normal supply channels.

TABLE 2-1. Component Removal From M551.

NOTE:**NSN's may have been superseded in the AMDF by later versions.**

COMPONENT	NOUN	VRC-12	VRC-43	VRC-46 VRC-64 GRC-160	VRC-47	VRC-49	GRC-11
NSN		QTY	QTY	QTY	QTY	QTY	QTY
5820004372353	Ant. Tip for AT-1095	1	1	1	1	2	
5820008569165	Audio Accessory Kit						1
5935009307223	Ant. Tip for MS-118A	1			1		
5820008923340	C-2299					1	
5965000433463	Handset (H-250)	1	1	1	1	1	
5965000433460	Headset H-251 (H-140)	1	1	1	1	1	
5965008762375	Loudspeaker	2	1		1		
5965001797762	Microphone M-80	1	1	1	1	1	
5995008232725	CX-4721 (2 ft 6 in)	1			1		
5985002215544	Mast Base	1			1		
5820001998831	Mast Section	1			1		3
5985001157149	Mast Section	1			1		1
5985002387474	Mast Section	1			1		1
5820008931323	MT-1029/VRC	1	1	1	1	2	
5820008931324	MT-1898/VRC	1			1		
5995008232833	CX-4723 (5 ')					1	
5995008232836	CX-4723 (9 ')					1	
5995008232912	CX-4721 (10 ')					1	
5995001705573	Bonding Jumper						1
5820002265726	Cross Bar Assy (Long)						2
5820007645760	Lead-in Support Kit						1
5820000785614	M1-3140/GRC						1
5820009301999	Ground Rod Assy						1
5820009086416	Antenna Tiedown	2	1	1	2	2	1
5820000784770	AB-652/GRC Mast Base						1
5995001388649	CX-10171/U (4 ')						1
5820000784769	Antenna Cover						
5820005711828	Antenna Sheath clamp						1
5965002436420	LS-166/U Loudspeaker						1
5985009859024	AS-1729/VRC Antenna	1	1	1	1	2	
5995002355047	CG-409G/U (6 in)						2
5995009858005	CG-10099/U (7 in)						1
5995008232887	CX-4721 (1 ft 6 in)						
5995008232308	CG-1127/U (10 in)						
ALL VINSON Equipment		X	X	X	X	X	

TABLE 2-2. Component Removal From M151.

Remove the following items from the M151 and retain for use in the HMMWV.

NOTE:

NSN's may have been superseded in the AMDF by later versions

COMPONENT	NOUN	VRC-12	VRC-43	VRC-44	VRC-46, 64 GRC-160
NSN		QTY	QTY	QTY	QTY
5820004372353	Ant. Tip for AT-1095	1	1	1	1
5820008569165	Audio Accessory Kit				
5935009307223	Ant. Tip for MS-118A	1		2	
5820008923340	C-2299				
5965000433463	Handset (H-250)	1	1	1	1
5965000433460	Headset H-251 (H-140)	1	1	1	1
5965008762375	Loudspeaker	2	1	2	
5965001797762	Microphone M-80	1	1	1	1
5995008232725	CX-4721 (2 ft 6 in)	1		1	
5985002215544	Mast Base	1		1	
5820001998831	Mast Section	1		1	
5985001157149	Mast Section	1		1	
5985002387474	Mast Section	1		1	
5820008931323	MT-1029/VRC	1	1	1	1
5820008931324	MT-1898/VRC	1		2	
5995008232833	CX-4723 (5 ')				
5995008232836	CX-4723 (9 ')				
5995008232912	CX-4721 (10 ')				
5995001705573	Bonding Jumper				
5820002265726	Cross Bar Assy (long)				
5820007645760	Lead-in Support Kit				
5820000785614	MT-3140/GRC				
5820009301999	Ground Rod Assy				
5820009086416	Antenna Tiedown	2	1	2	1
5820000784770	AB-652/GRC Mast Base				
5995001388649	CX-1017/U (4 ')				
5820000784769	Antenna Cover				
5820005711828	Antenna Sheath Clamp				
5965002436420	LS-166/U Loudspeaker				
5985009859024	AS-1729/VRC Antenna	1	1	1	1
5995002355047	CG-409G/U (6 in)				
5995009858005	CG-10099/U (7 in)				
5995008232887	CX-4721 (1 ft 4 in)			1	
5995008232308	CG-1127/U (10 in)			1	
5820009301998	Antenna guard assy.				
5820000459696	Antenna mount assy.				
ALL VINSON Equipment		X	X	X	X

TABLE 2-3. Component Removal From M151.

Remove the following items from the M151 and retain for use in the HMMWV.

NOTE:
NSN's may have been superseded in the AMDF by later versions.

COMPONENT NSN	NOUN	VRC-47 QTY	VRC-48 QTY	VRC-49 QTY	GRC-106 QTY
5820004372353	Ant. Tip for AT-1095	1	1	1	
5820008569165	Audio Accessory Kit				1
5935009307223	Ant. Tip for MSA-118A	1	1		
5820008923340	C-2299			1	
5965000433463	Handset (H-250)	1	1	1	
5965000433460	Headset H-251 (H-140)	1	1	1	
5965008762375	Loudspeaker	1	2		
5965001797762	Microphone M-80	1	1	1	
5995008232725	CX-4721 (2 ft 6 in)	1	1		
5985002215544	Mast Base	1	1		
5820001998831	Mast Section	1	1		3
5985001157149	Mast Section	1	1		1
5985002387474	Mast Section	1	1		1
5820008931323	MT-1029/VRC	1	1	2	
5820008931324	MT-1898/VRC	1	2		
5995008232833	CX-4723 (5 ')			1	
5995008232836	CX-4723 (9 ')			1	
5995008232912	CX-4721 (10 ')			1	
5995001705573	Bonding Jumper				1
5820002265726	Cross Bar Assy (Long)				2
5820007645760	Lead-in Support Kit				1
5820000785614	MT-3140/GRC				1
5820009301999	Ground Rod Assy				1
5820009086416	Antenna Tiedown	2	2	2	1
5820000784770	AB-652/GRC Mast Base				1
5995001388649	CX-10171/U (4 ')				1
5820000784769	Antenna Cover				1
5820005711828	Antenna Sheath Clamp				1
5965002436420	LS-166/U Loudspeaker				1
5985009859024	AS-1729/VRC Antenna	1	1	2	
5995002355047	CG-409G/U (6 in)				2
5995009858005	CG-10099/U (7 in)				1
5995008232887	CX-4721 (1 ft 6 in)		1		
5995008232308	CG-1127/U (10 in)		1		
5820009301998	Antenna guard assy.				1
ALL VINSON Equipment		X	X	X	

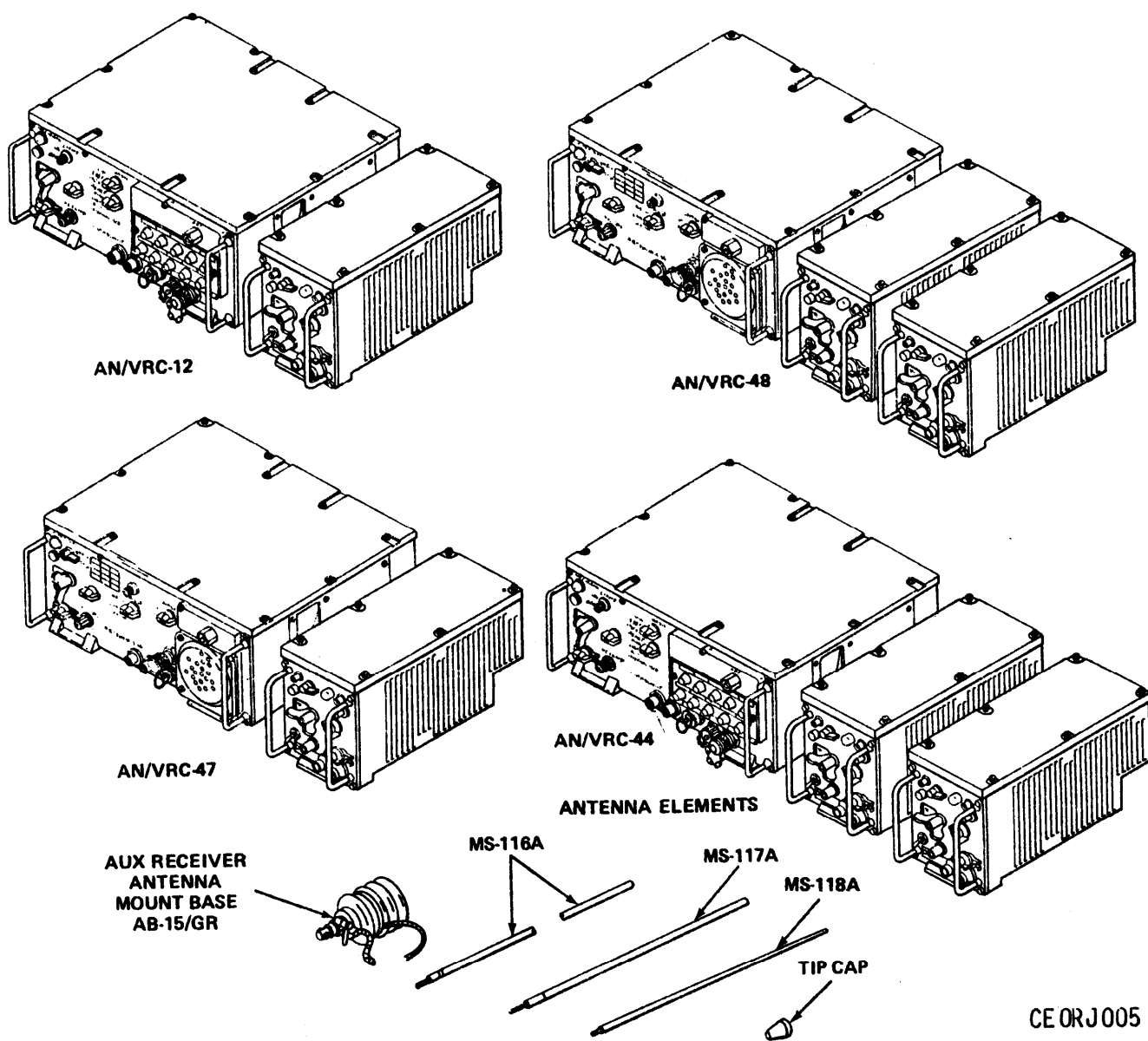
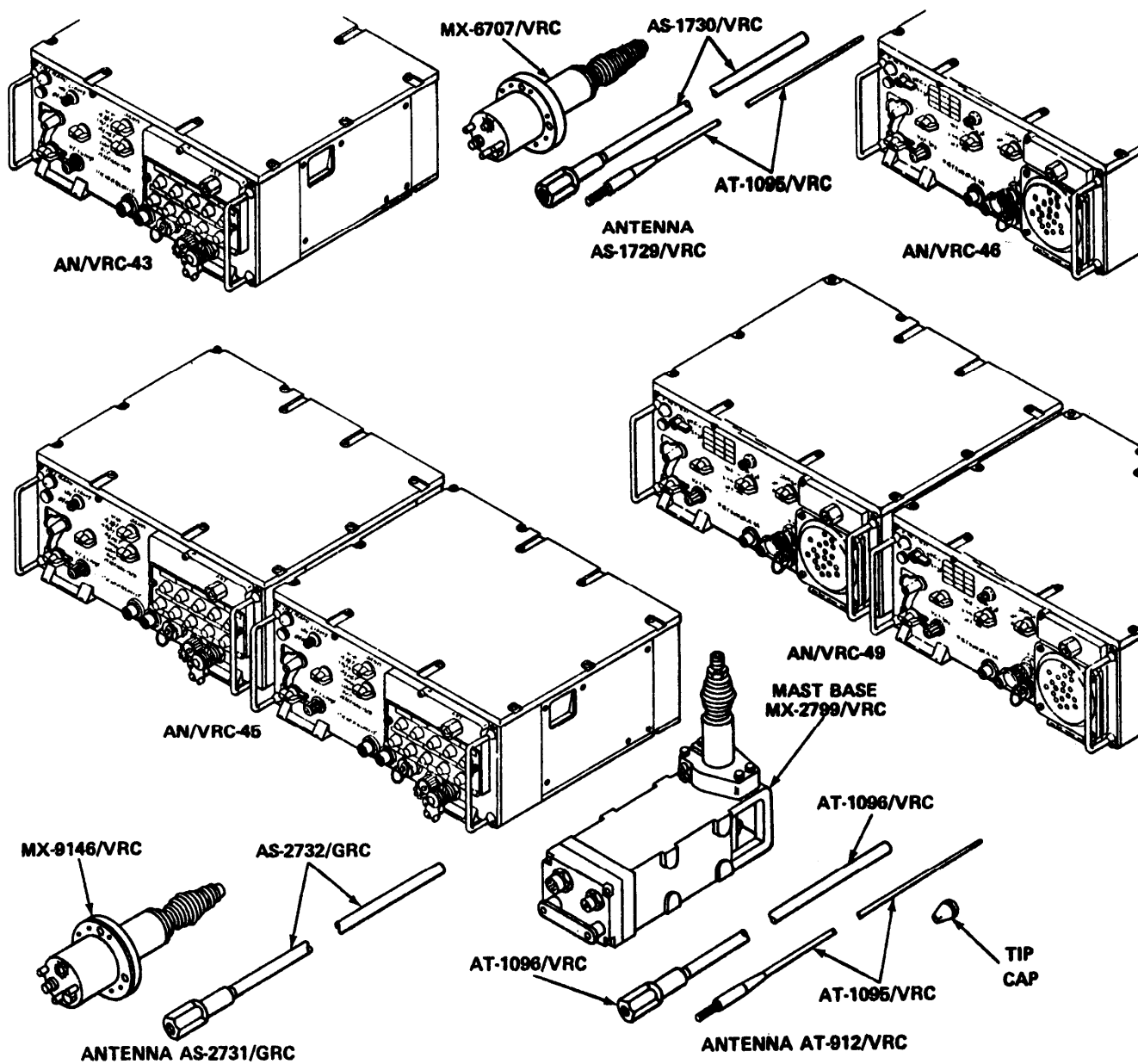


Figure 2-1. Configurations of AN/VRC-12 Series Radios (AN/VRC-12, AN/VRC-44, AN/VRC-47, and AN/VRC-48).



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Figure 2-2. Configurations of AN/VRC-12 Series Radios (AN/VRC-43, AN/VRC-45, AN/VRC-46, and AN/VRC-49).

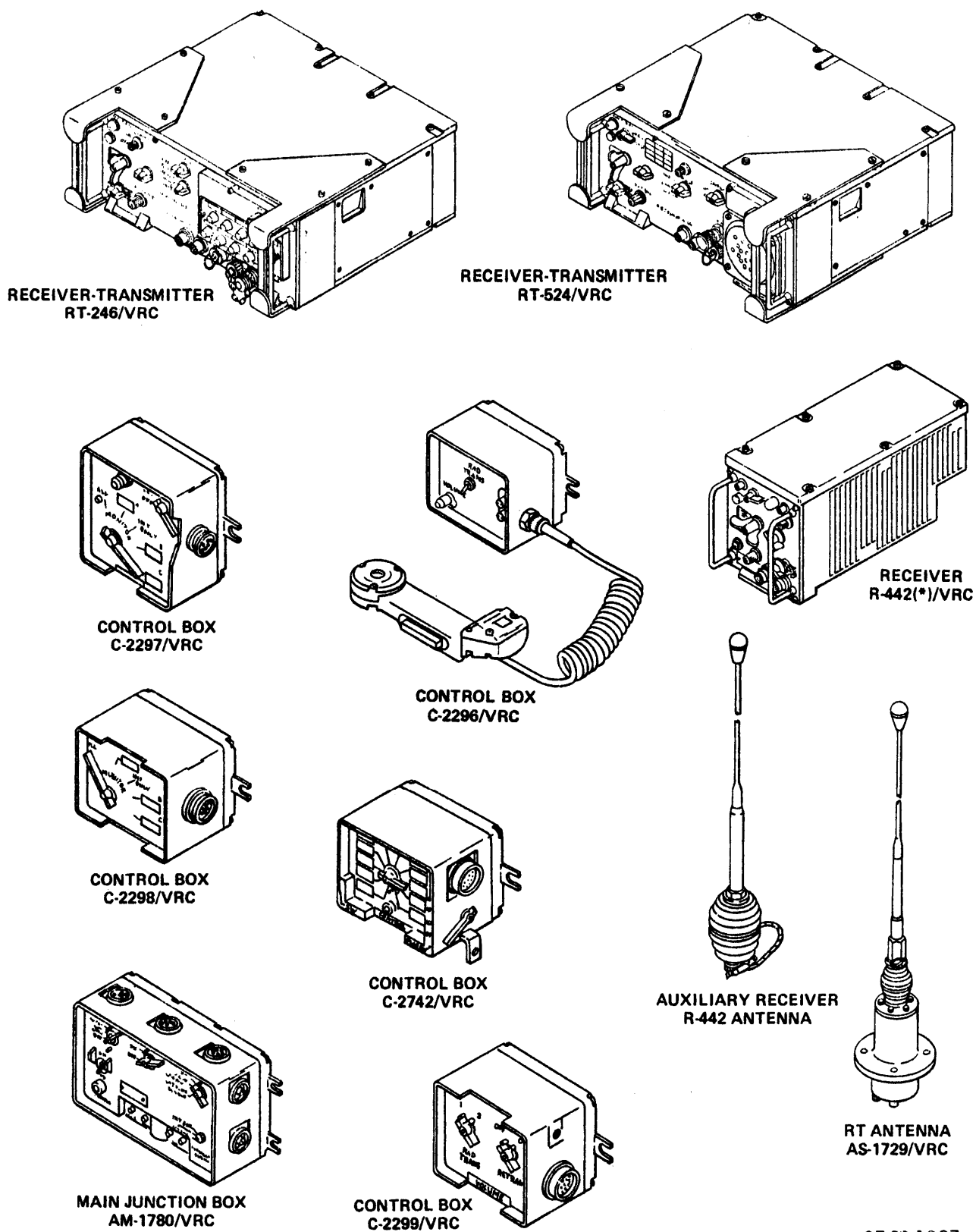
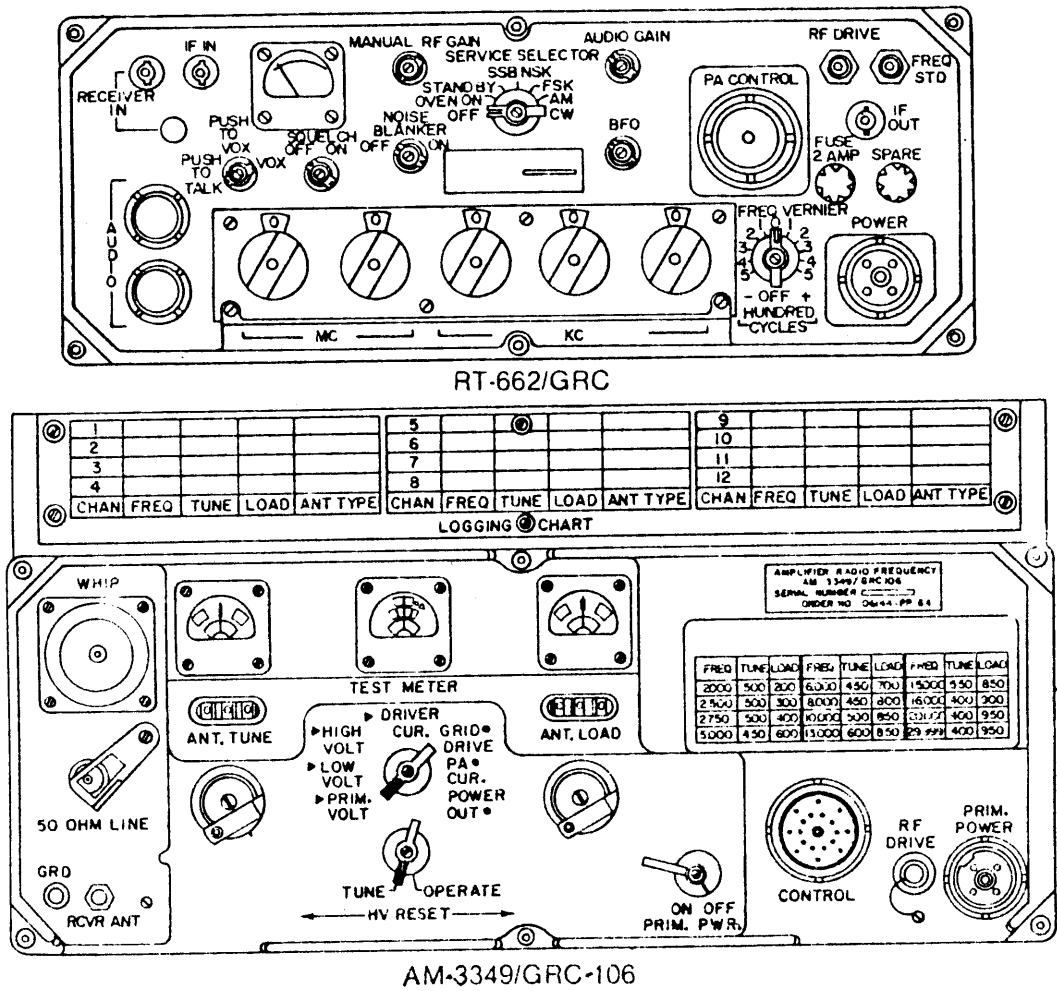


Figure 2-3. AN/VRC-12 Series Components

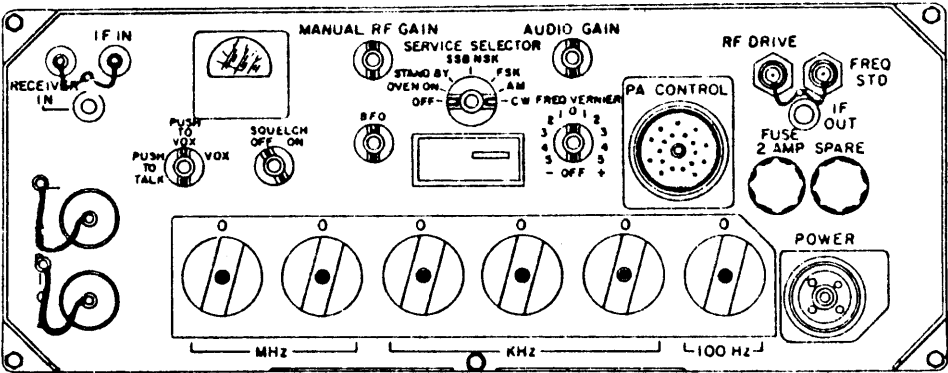
Radio Set ANIGRC-106 uses RT-662/GRC with AM-3349/GRC-106. RT-662/GRC has 5 tuning controls which can be used to select any one of 28,000 operating frequencies. RT-662/GRC tunes in 1-kHz units.



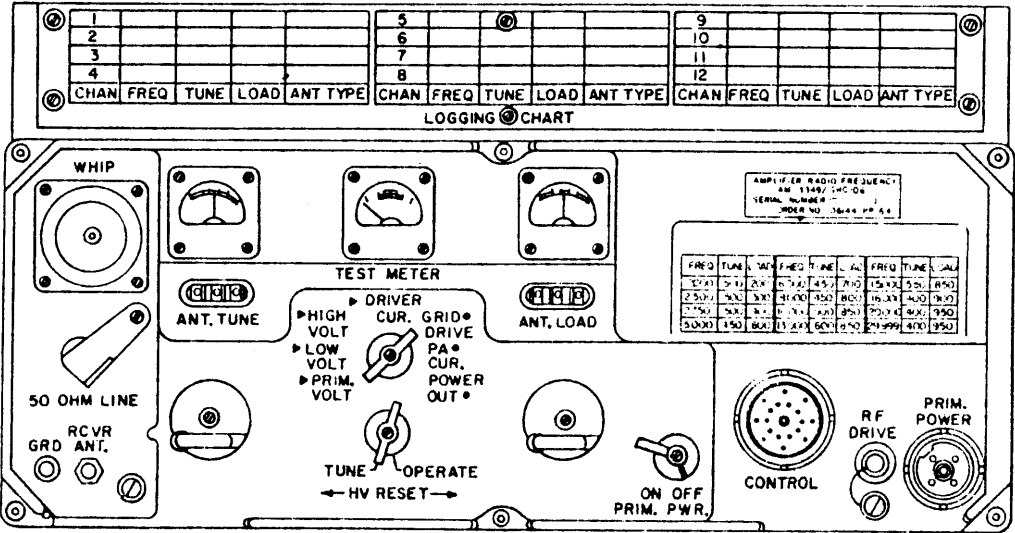
CE ORJ 008

Figure 2-4. AN/GRC-106.

Radio Set AN/GRC-106A uses FIT-834/GRC with AM-3349IGRC-106. RT-834/GRC has 6 tuning controls which can be used to select any one of 280,000 operating frequencies. RT-834/GRC tunes in 100-Hz units.



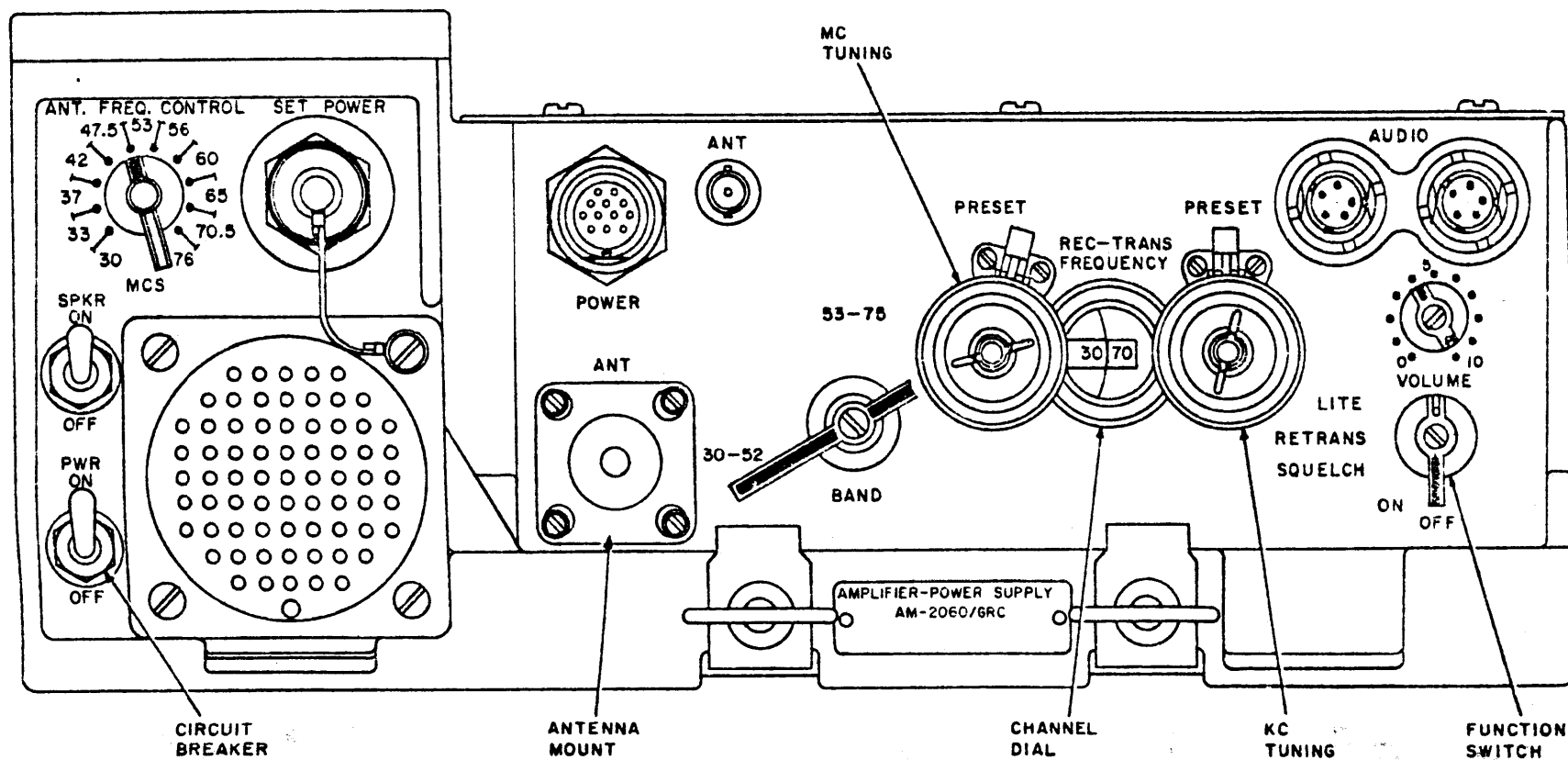
RT-834/GRC



AM-3349/GRC-106

CEORJ 009

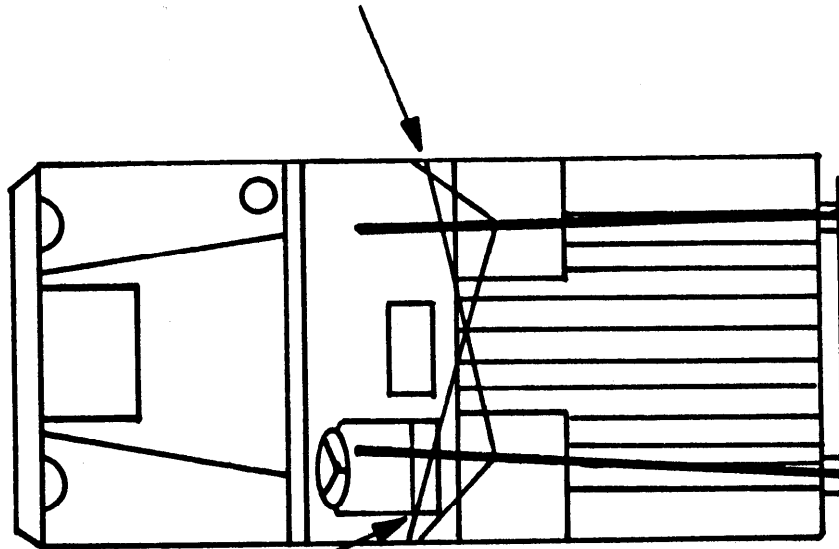
Figure 2-5. AN/GRC-106A.



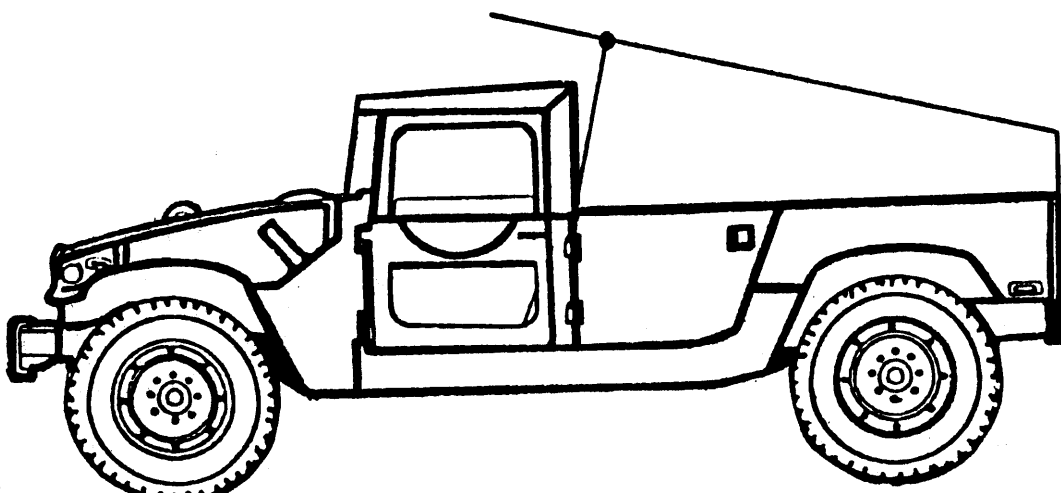
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Figure 2-6. AN/GRC-64 and AN/GRC-160.

CLAMP LOOP MS21333-102
 1/4-28 NUT AND BOLT
 P/O HARDWARE KIT,
 UNIVERSAL PPL #10111
 NSN 5820-01-165-8531



ANTENNA TIE DOWN KIT



CEORJO11

Figure 2-7. Antenna Tie Down for HMMWV (Dwg No. A3046217).

(7) Dual radio (i.e., two antenna requirements) kits should be available after 1 Jan 86. The dual radio kit part numbers are as follows:

(a) Use 5596132 for AN/VRC-12, AN/VRC-47. This kit has a shelf for COMSEC Vinson mounts, installation instructions, antenna bracket, RF cable, and associated hardware.

(b) Use 5596133 for AN/VRC-44, AN/VRC-48, AN/VRC-49. This kit has radio/COMSEC Vinson shelf, cables, antenna bracket, hardware and installation instructions.

(8) Units that are on the HMMWV fielding schedule should submit their dual radio (i.e., AN/VRC-12, 44, 47, 48, 49) requirements per TOE to TACOM (AMCPM-TVLH), not later than 120 days prior to the scheduled HMMWV fielding date. Requirements should be consolidated at the property book level.

c. VINSON Security Equipment

<u>RADIO SET</u>	<u>EQUIP</u>	<u>NSN</u>	<u>QTY</u>
AN/VRC-12	MK-2147/VRC	5810-01-254-4680	1
	MK-1967/VRC	5810-01-074-2687	1
AN/VRC-43	MK-2147/VRC	5810-01-125-4680	1
AN/VRC-44	MK-2147/VRC	5810-01-125-4680	1
	MK-1967/VRC	5810-01-074-2687	2
AN/VRC-46	MK-2147/VRC	5810-01-125-4680	1
AN/VRC-47	MK-2147/VRC	5810-01-125-4680	1
	MK-1967/VRC	5810-01-074-2687	1
AN/VRC-48	MK-2147/VRC	5810-01-125-4680	1
	MK-1967/VRC	5810-01-074-2687	1
AN/VRC-49	MK-2153/VRC	5810-01- 25-1033	1
	MK-2147/VRC	5810-01- 25-4680	2
AN/VRC-64	MK-2149/VRC	5810-01- 25-1031	1
AN/VRC-160	MK-2149/VRC	5810-01- 25-1031	1

(1) Transition installation - All existing COMSEC Vinson security equipment will be transferred from the M151/M561 to the HMMWV except for the Support Assembly SC-D-691342, NSN 5810-01-043-4643.

(2) New installation - if the M151/M561 has no COMSEC Vinson equipment, new COMSEC Vinson installation equipment must be requisitioned for the HMMWV. Refer to TM 11-5810-343-12&P-I (FOUO), 30 Aug 83, and SB 11-700 (FOUO), 3 Mar 83.

d. CECOM HMMWV Installation Kits

RADIO	L/K NOMEN	LIN	NSN
AN/VRC-12/47	MK-2503/VRC	J48470	5820-01-208-1902
AN/VRC-44/48	MK-2504/VRC	J48538	5820-01-208-1903
AN/VRC-46	MK-2502/VRC	J48402	5820-01-208-1901
AN/VRC-49	MK-2505/VRC	J48606	5820-01-208-1904
AN/GRC-160	MK-2502/VRC	J48402	5820-01-208-1901
AN/VSC-2	MK-2508/VSC	J48674	5820-01-208-1907
AN/GRC-106	MK-2506/GRC	J48674	5820-01-208-1905
AN/VRC-24	MK-2507/VRC	J88664	5820-01-208-1906

(1) After transfer/swap-out of old 1/Ks, the HMMWV 1/K will be accounted for under LINS listed above.

(2) These installation kits are complete 1/Ks and will not be available until 2nd quarter, Fiscal Year 88.

2-2 DRAWING PACKAGE NUMBERS

Drawing No.	Fig.
A3046217	Figure 2-7
A3046213 Sheet 1	Figure 2-8
A3046213 Sheet 2	Figure 2-8
A3046160	Figure 2-9
A3046164	Figure 2-10
A3046212	Figure 2-11
A3046161	Figure 2-12
A3046211	Figure 2-13
A3046216	Figure 2-14
A3046214	Figure 2-15
A3046215	Figure 2-16

2-3 TOOLS REQUIRED

Intermediate Direct Support Tool Kit

2-4 INSTALLATION PROCEDURES

a. Drawing A3046217, Antenna Tiedown for HMMWV (Fig. 2-7).

Step 1. Remove 1/4" bolt that attaches rear door panel to the HMMWV.

Step 2. Place Clamp Loop MS 21333-102, NSN 5340-00-984-8540, or cut some clamp strap material and place the 1/4" bolt through it.

Step 3. Replace the 1/4" bolt back into the vehicle. Do this to both sides of the vehicle.

Step 4. The Antenna AS-1729/VRC can be tied down to these clamp loops by tying one rope to each loop extended from the tiedown clip on the antenna. (Refer to Fig. 2-7, Antenna Tiedown Drawing A3046217.)

b. Drawing A30462-3, Sheets 1 and 2, Transition Installation of Radio Sets AN/VRC-43, AN/VRC-46, AN/VRC-64 or AN/GRC-160 (Fig. 2-8); Drawing A3046160, Installation of TSEC/KY-57 for Combination with Radio Set AN/VRC-46; and Drawing A3046164 (Fig. 2-9), Installation of TSEC/KY-57 for Combination with Radio Set AN/VRC-64 or AN/GRC-160 (Fig. 2-10) in Truck 1 1/4 ton HMMWV.

c. Items List.

Remove the following items from the M151/M561 and retain for use in the HMMWV.

NSN	COMPONENT NOUN	VRC-43 QTY	GRC-160, VRC-64, VRC-46 QTY
5985-00-985-9024	AS-1729/VRC Antenna	1	1
5820-00-437-2353	Ant. Tip for AT-1095	1	1
5820-00-908-6416	Antenna Tiedown	1	1
5965-00-043-3463	Handset (H-250)	1	1
5965-00-043-3460	Headset H-251 (H-140)	1	1
5965-00-876-2375	Loudspeaker	1	0
5820-00-893-1323	MT-1029/VRC	1	1
5965-00-179-7762	Microphone M-80	1	1
All COMSEC Vinson Equipment		x	x

NOTE

NSNS may have been superseded in the AMDF by later versions.

d. Transition Installation of AN/VRC-43, 46, 64 or AN/GRC-160 (Figs. 2-2 and 2-6) in HMMWV.

Refer to Items List, c above, to find out which items are recovered and retained from either the M151 or M561 to be used in the HMMWV. Install those items per Drawing A3046213 (Fig. 2-8).

Step 1. Bolt Mount MT-1029/VRC (Fig. 2-8) to existing front radio shelf using 5/16^u hardware provided.

Step 2. Install Antenna AS-1792/VRC (Figs. 2-2, 2-3, and 2-8) onto existing curbside antenna bracket using 3/8" hardware provided.

Step 3. Connect existing cable assemblies, both the radio frequency and control cable, to Antenna AS-1729/VRC.

Step 4. Connect existing power cable to J21 on Mount MT-1029/VRC. Refer to cording diagram on Drawing A3046213 (Fig. 2-8).

Step 5. Install basic radio set into Mount MT-1029/VRC.

Step 6. Connect remaining cables to the basic radio set.

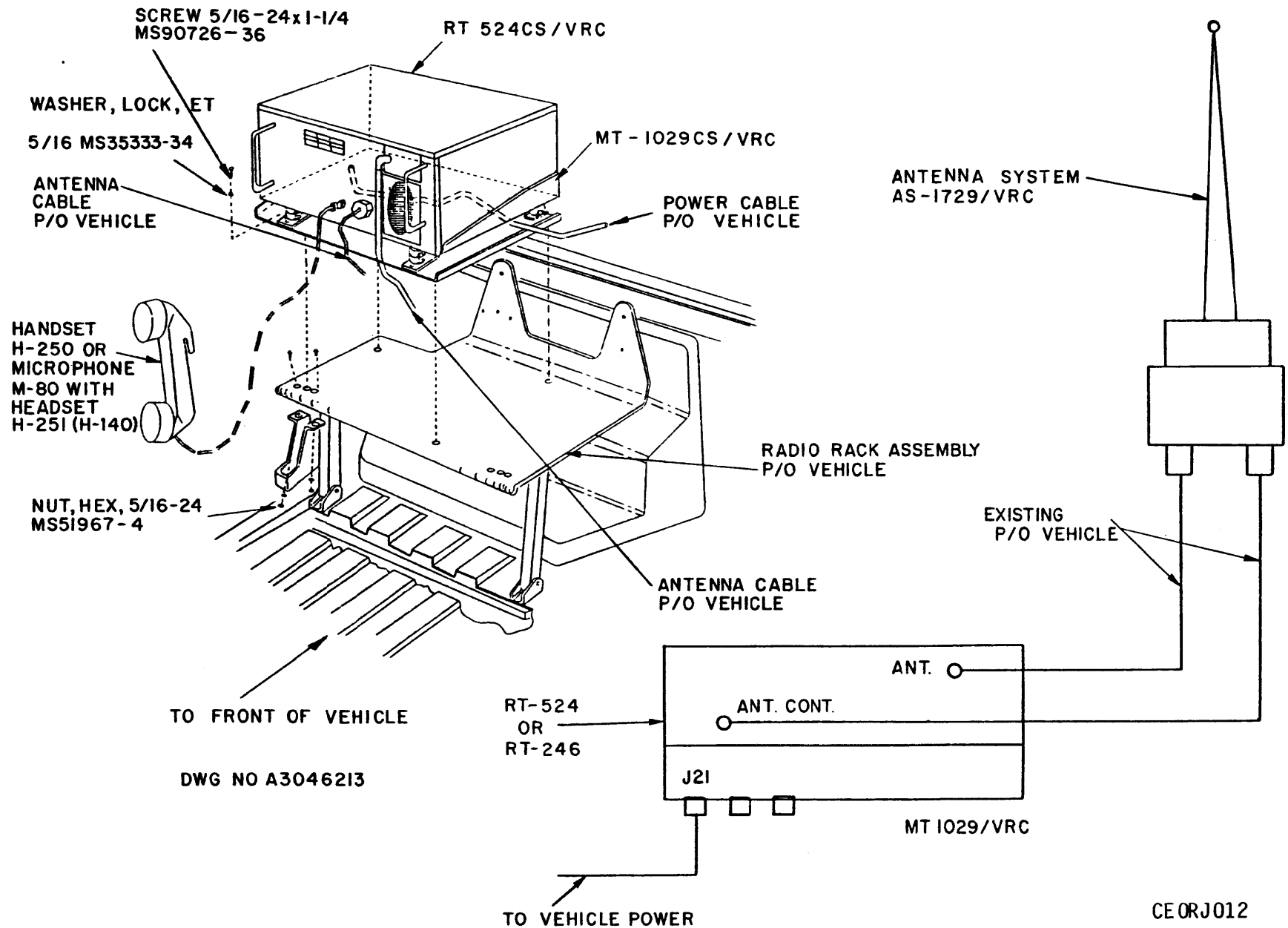


Figure 2-8-1. Transition Installation of AN/VRC-46, AN/VRC-64 or AN/GRC-160
(Dwg No. A3046213) (Sheet 1 of 2).

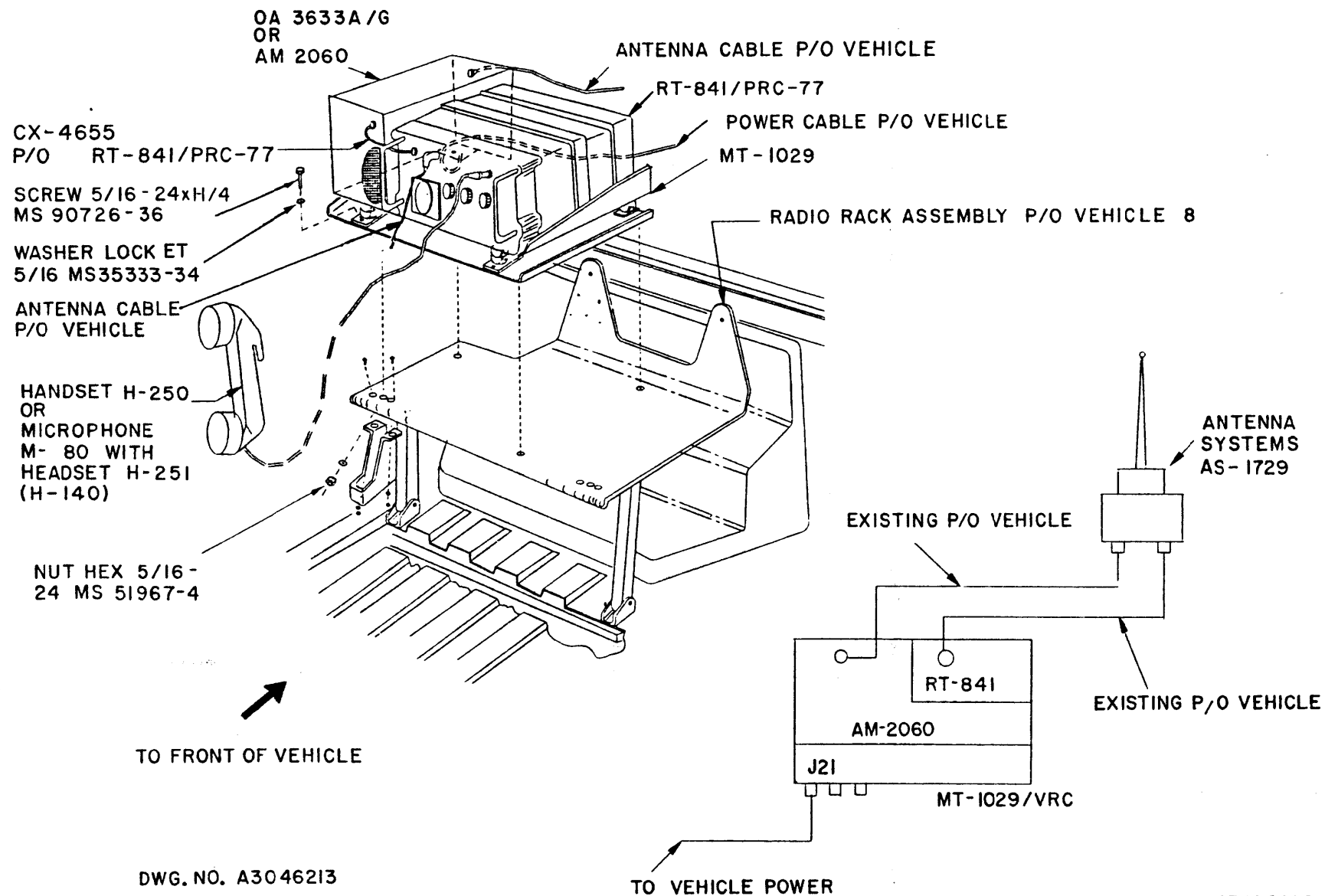
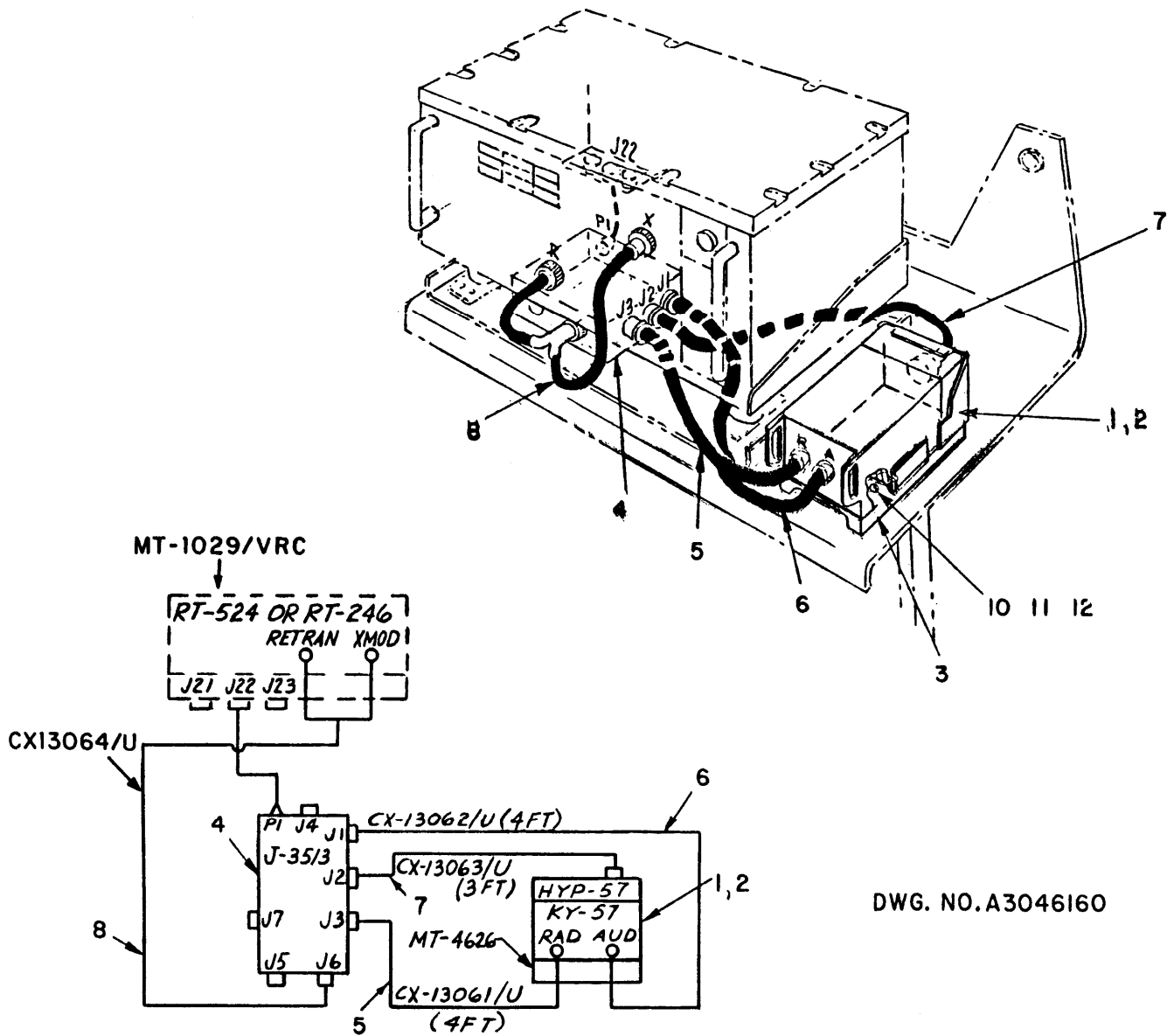


Figure 2-8-2. Transition Installation of AN/VRC-46, AN/VRC-64 or AN/GRC-160
(Dwg No. A3046213) (Sheet 2 of 2).



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Figure 2-9. Installation of TSEC/KY-57 for Combination with AN/VRC-46
(Dwg No. A3046160)

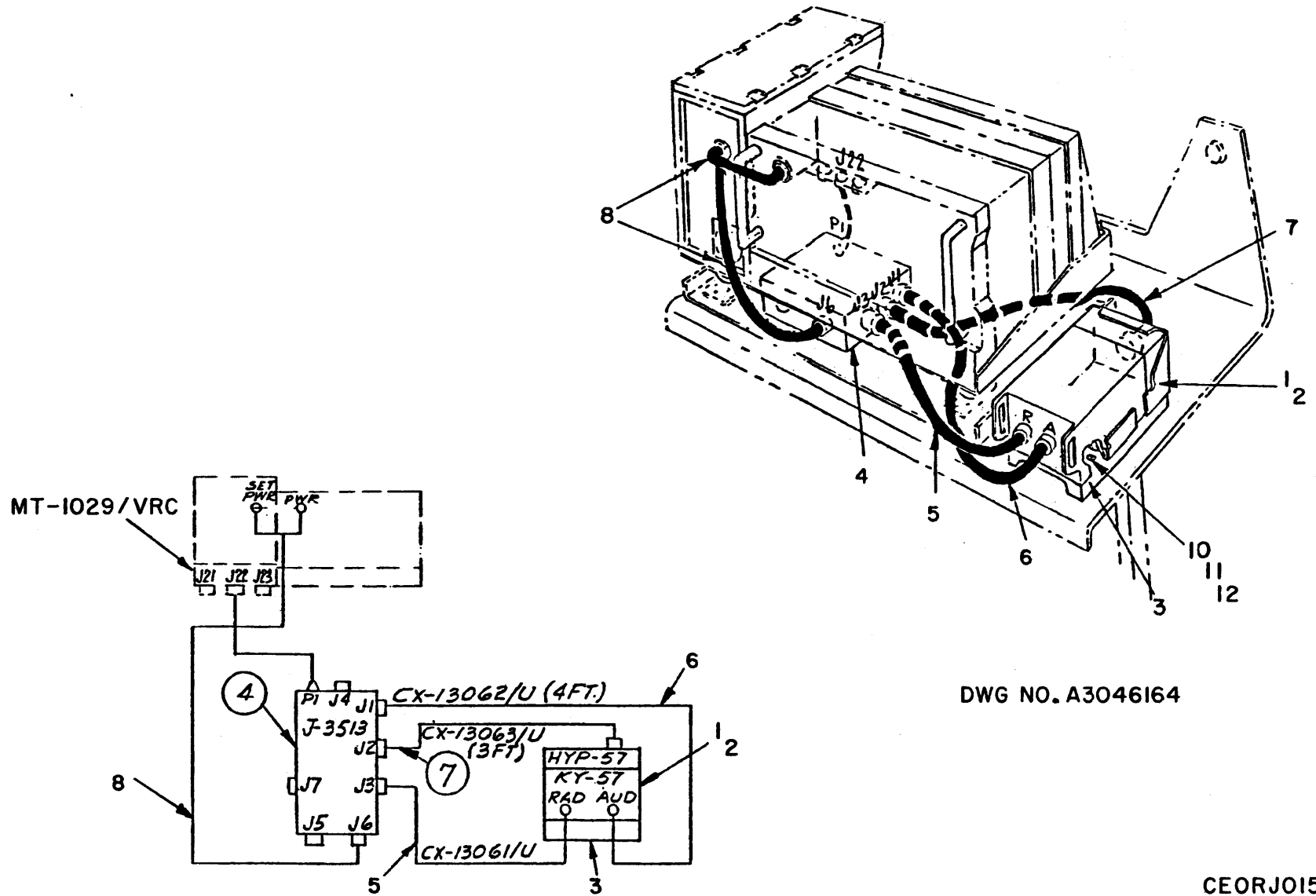


Figure 2-10. Installation of TSEC/KY-57 for Combination with AN/VRC-64 and AN/GRC-160 (Dwg No. A3046164).

e. Drawing A3046160 Item Names (Fig. 2-9)

Item No.	Name of Item	Qty Req'd	Remarks
1	Security Equip, TSEC/KY-57	1	Note 1
2	Vehicular Pwr Adapter, HYP-57/TSEC	1	Note 1
3	Base Mtg, Elec Equip, MT-4626/VRC	1	DL-SC-B-884714
4	Interconnecting Box, J-3513/U	1	DL-SC-B-939631
5	Cable Assy, S.P. Elec, CX-13061/U (4 ft.)	1	SM-D-930682
6	Cable Assy, S.P. Elec, CX-13062/U (4 ft.)	1	SM-I-930683
7	Cable Assy, S.P. Elec, CX-13063/U (3 ft.)	1	SM-D-930684
8	Cable Assy, S.P. Elec, CX-13064/U	1	SM-D-930685
9	Cable Clamp Kit, Univ.	A/R	PPL 5170 (Note 2)
10	Screw, Hex, H0, 5/16-24x3/4 Lg	4	
11	Nut, Hex H0, 5/16-24	4	P/O 3
12	Washer, Lock, I.E.T. 5/16	8	

NOTES

1. Order items 1 and 2 from CECOM, COMM Security Logistics Activity (SELCL), Fort Huachuca, Arizona 85613.

2. Cut clamp strap material into required lengths for cable clamping.

3. Refer to Drawing SC-D-366309 for installation of Interconnecting Box J-3513/U 4.

f. Drawing A3046164 Item Names (Fig. 2-10)

Item No.	Name of Item	Qty
1	Security Equip, TSEC/KY-57	1
2	Vehicular Pwr Adapter HYP-57/TSEC	1
3	Base, Mtg, Elec Equip, MT-4626/VRC	1
4	Interconnecting Box J-3513/U	1
5	Cable Assy, S.P. Elec, CX-13061/U (4 ft.)	1
6	Cable Assy, S.P. Elec, CX-13062/U (4 ft.)	1
7	Cable Assy, S.P. Elec, CX-13063/U (3 ft.)	1
8	Cable Assy, S.P. Elec, CX-13065/U	1
9	Cable Clamp Kit, Univ	A/R
10	Screw, Hex 5/16-24x3/4 Lg	4
11	Nut, Hex 5/16-24	4
12	Washer, Lock I.E.T. 5/16	8

NOTES

1. Order items 1 and 2 from CECOM, Comm Security Logistics Activity (SELCL), Fort Huachuca, Arizona 85613.
2. Cut clamp strap material into required lengths for cable clamping.
3. Refer to Drawing SC-D-866309 for installation of Interconnecting Box J-3513/U 4.

g. Drawing A3046212, Transition Installation of Radio Set AN/VRC-12 or AN/VRC-47 (Fig. 2-11); and Drawing A3046161, Installation of TSEC/KY-57 for Combination with Radio Set AN/VRC-12 or AN/VRC-47 (Fig. 2-12) in Truck 1 1/4 Ton HMMWV.

h. Items list

Remove the following items from the M151/M561 and retain for use in the HMMWV.

NSN	COMPONENT NOUN	VRC-12 QTY	VRC-47 QTY
5985-00-985-9024	AS-1729/VRC ANTENNA	1	1
5820-00-437-2353	Ant. Tip for AT-1095	1	1
5935-00-930-7223	Ant. Tip for MS-118A	1	1
5820-00-908-6416	Antenna Tie down	2	2
5995-00-823-2725	CX-4721 (2 ft. 6 in.)	1	1
5965-00-043-3463	Handset (H-250)	1	1
5965-00-043-3460	Headset H-251 (H-140)	1	1
5965-00-876-2375	Loudspeaker	2	1
5820-00-893-1323	MT-1029/VRC	1	1
5820-00-893-1324	MT-1898/VRC	1	1
5985-00-221-5544	Mast Base	1	1
5985-00-115-7149	Mast Section	1	1
5985-00-238-7474	Mast Section	1	1
5820-00-199-8831	Mast Section	1	1
5965-00-179-7762	Microphone M-80	1	1
ALL COMSEC Vinson equipment		X	X

NOTE

NSNS may have been superseded in the AMDF by later versions.

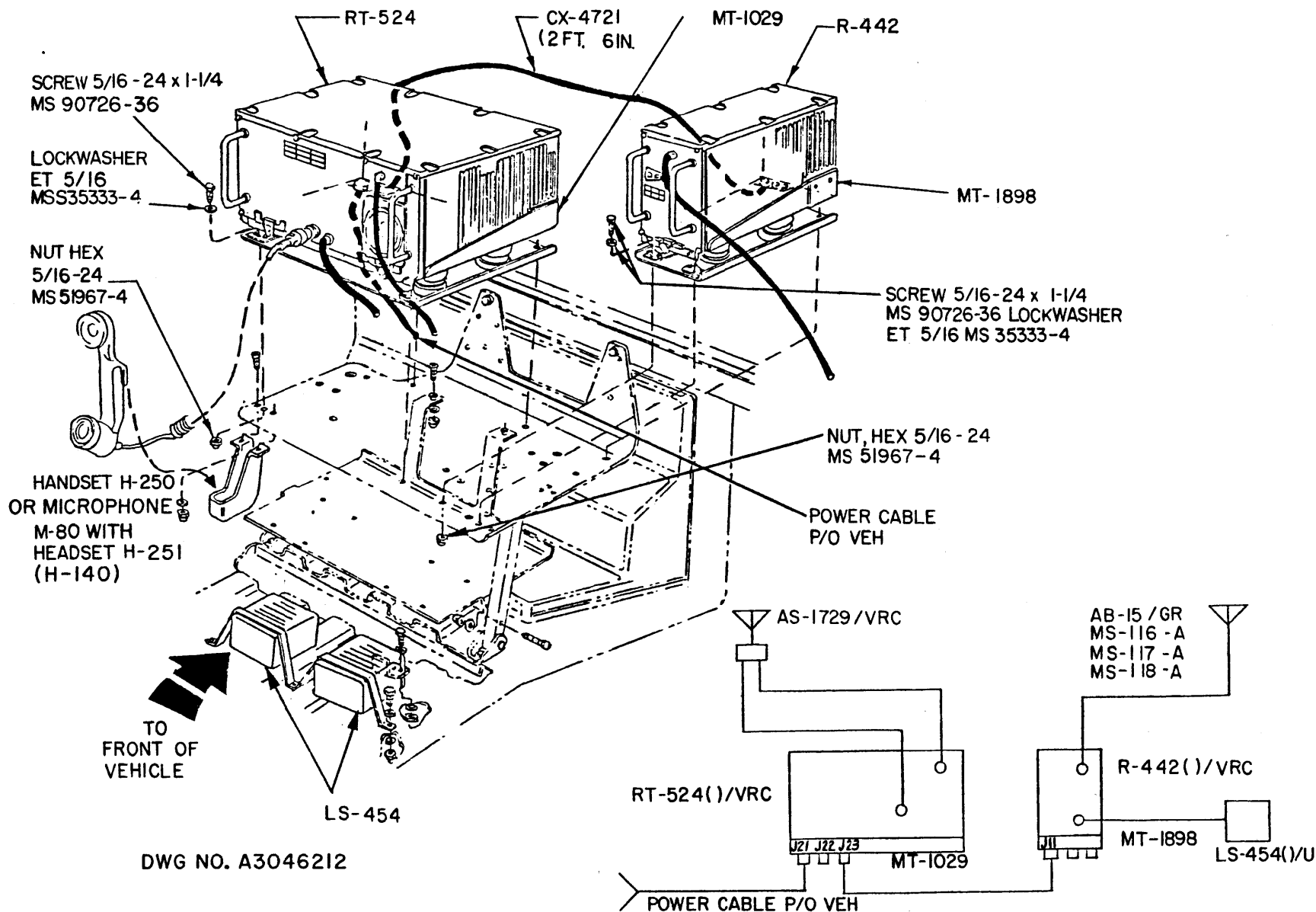
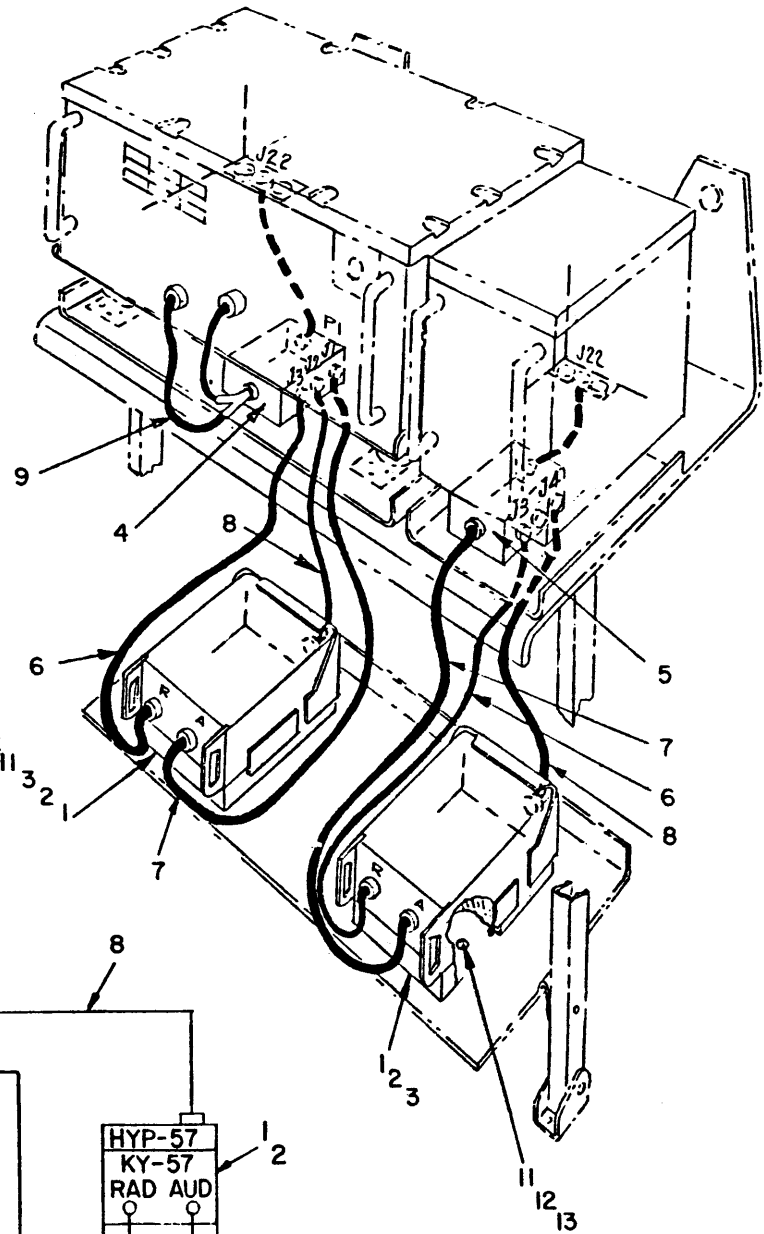
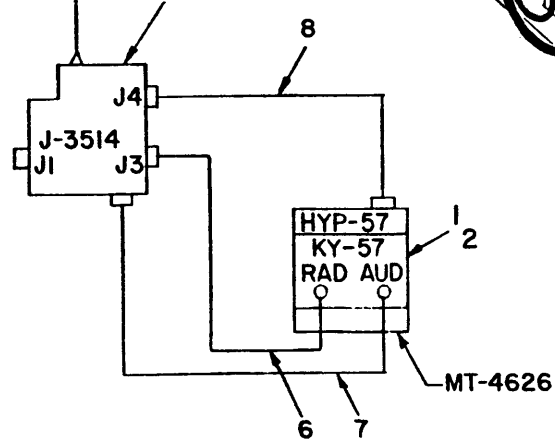
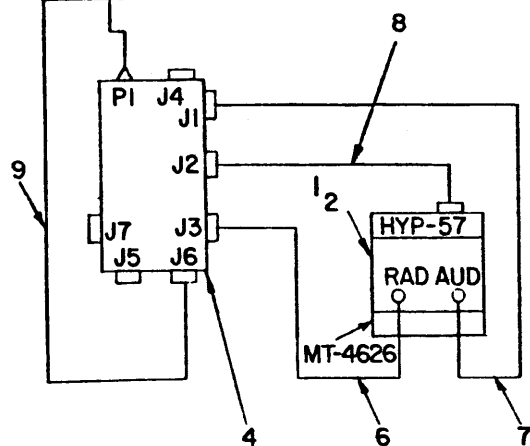
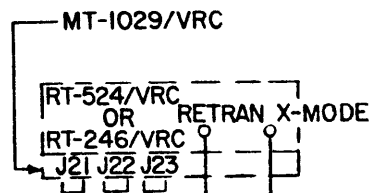


Figure 2-11. Transition Installation of AN/VRC-12 and AN/VRC-47 (Dwg No. A3046212).



DWG NO. A3046161

Figure 2-12. Installation of TSEC/KY-57 with AN/VRC-12 and AN/VRC-47
(Dwg No. A3046161)

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i. Transition Installation of Radio Set AN/VRC-12 or AN/VRC-47 (Fig. 2-1) in HMMWV.

Refer to Drawing A3046212 (Fig. 2-11) and Item List, h above, to find out which items are recovered and retained from either the M151 or M561 to be used in the HMMWV. Install those items per Drawing A3046212. Kit 5596132 should be installed in the HMMWV prior to installing any of the recovered items from the displaced vehicle.

Step 1. Bolt Mount MT-1029/VRC and Mount MT-1898/VRC to existing front radio rack using 5/16" hardware provided.

Step 2. Install Antenna AS-1729/VRC (Fig. 2-1) onto existing rear curbside antenna bracket using 3/8" hardware provided.

Step 3. Connect existing cable assemblies, radio frequency, and control cables to Antenna AS-1729/VRC.

Step 4. Install Antenna Mast Base AB-15/GR (Fig. 2-1) and antenna adapter to rear roadside antenna bracket. Add Mast Sections MS-118A, MS117A, MS116A (Fig. 2-1) to Mast Base AB-15/GR.

Step 5. Connect radio frequency cable to Mast Base AB-15/GR.

Step 6. Connect existing power cable to J21 on Mount MT-1029/VRC. Refer to cording diagram on Drawing A3046212 (Fig. 2-11).

Step 7. Connect Cable Assembly CX-4721 from J23 of Mount MT-1029/VRC to J11 of Mount MT-1898/VRC.

Step 8. Install basic radio sets into Mount MT-1029/VRC and Mount MT-1898/VRC.

Step 9. Connect antenna cables to basic radio sets. Refer to cording diagram on Drawing A3046212 (Fig. 2-11).

j.

Item No.	Name of Item	Qty Req'd	Remarks
1	Security Equipment, TSEC/KY-57	2	Note 1
2	Vehicular Pwr Adapter, HYP-57/TSEC	2	Note 1
3	Base, Mtg, Elec Equip, MT-4626/VRC	2	DL-SC-B-884714
4	Interconnecting Box J-3513/U	1	DL-SC-B-930691
5	Interconnecting Box J-3514/IJ	1	DL-SC-13-930692
6	Cable Assy, Pwr Elec CX-13061/U (4 ft.)	2	SM-D-930682
7	Cable Assy, Pwr Elec CX-13062/U (4 ft.)	2	SM-D-930683
8	Cable Assy, Pwr Elec CX-13063/U (3 ft.)	2	SM-D-930684
9	Cable Assy, Pwr Elec CX-13064/U	1	SM-D-930685
10	Cable Clamp Kit, Univ	A/R	PPL 5170
11	Screw, Hex HD, 5/16-24x3/4 Lg	8	P/O 3
12	Nut, Hex 5/16-24	8	P/O 3
13	Washer, Lock I.E.T. 5/16	16	

NOTES

1. Order items 1 and 2 from CECOM, Comm Security Logistics Activity (SELCL), Fort Huachuca, Arizona 85613

2. Cut clamp strap material into required lengths for cable clamping.

3. Refer to Drawing SC-D-566285 for Interconnecting Box J-3513/U 3.

4. Refer to Drawing SC-D-366309 for Interconnecting Box J-3513/U 4.

k. Drawing A3046211, Transition Installation of Radio Set AN/VRC-48 or AN/VRC-44 (Fig. 2-13); and Drawing A3046216, Installation of TSEC/KY-57 for Combination With Radio Set AN/VRC-44 or AN/VRC-48 (Fig. 2-14) in Truck, 1 1/4 ton HMMWV.

1. Items List

Remove the following items from M151 and retain for use in HMMWV.

NSN	COMPONENT NOUN	VRC-44	VRC-48
		<u>QTY</u>	<u>QTY</u>
5985-00-985-9024	AS-1729/VRC Antenna	1	1
5820-00-437-2353	Ant. Tip for AT-1095	1	1
5935-00-930-7223	Ant. Tip for MS-118A	1	1
5820-00-908-6416	Antenna Tiedown	2	2
5995-00-823-2308	CG-1127/U (10 in.)	1	1
5995-00-823-2887	CX-4721 (1 ft. 6 in.)	1	1
5995-00-823-2725	CX-4721 (2 ft. 6 in.)	1	1
5965-00-043-3463	Handset (H-250)	1	1
5965-00-043-3460	Headset H-251 (H-140)	1	1
5965-00-876-2375	Loudspeaker	2	2
5820-00-893-1323	MT-1029/VRC	1	1
5820-00-893-1324	MT-1898/VRC	2	2
5985-00-221-5544	Mast Base	1	1
5820-00-199-8831	Mast Section	1	1
5985-00-115-7149	Mast Section	1	1
5985-00-238-7474	Mast Section	1	1
5965-00-179-7762	Microphone M-80	1	1
ALL COMSEC Vinson Equipment		X	X

NOTE

NSNs may have been superseded in the AMDF by later versions.

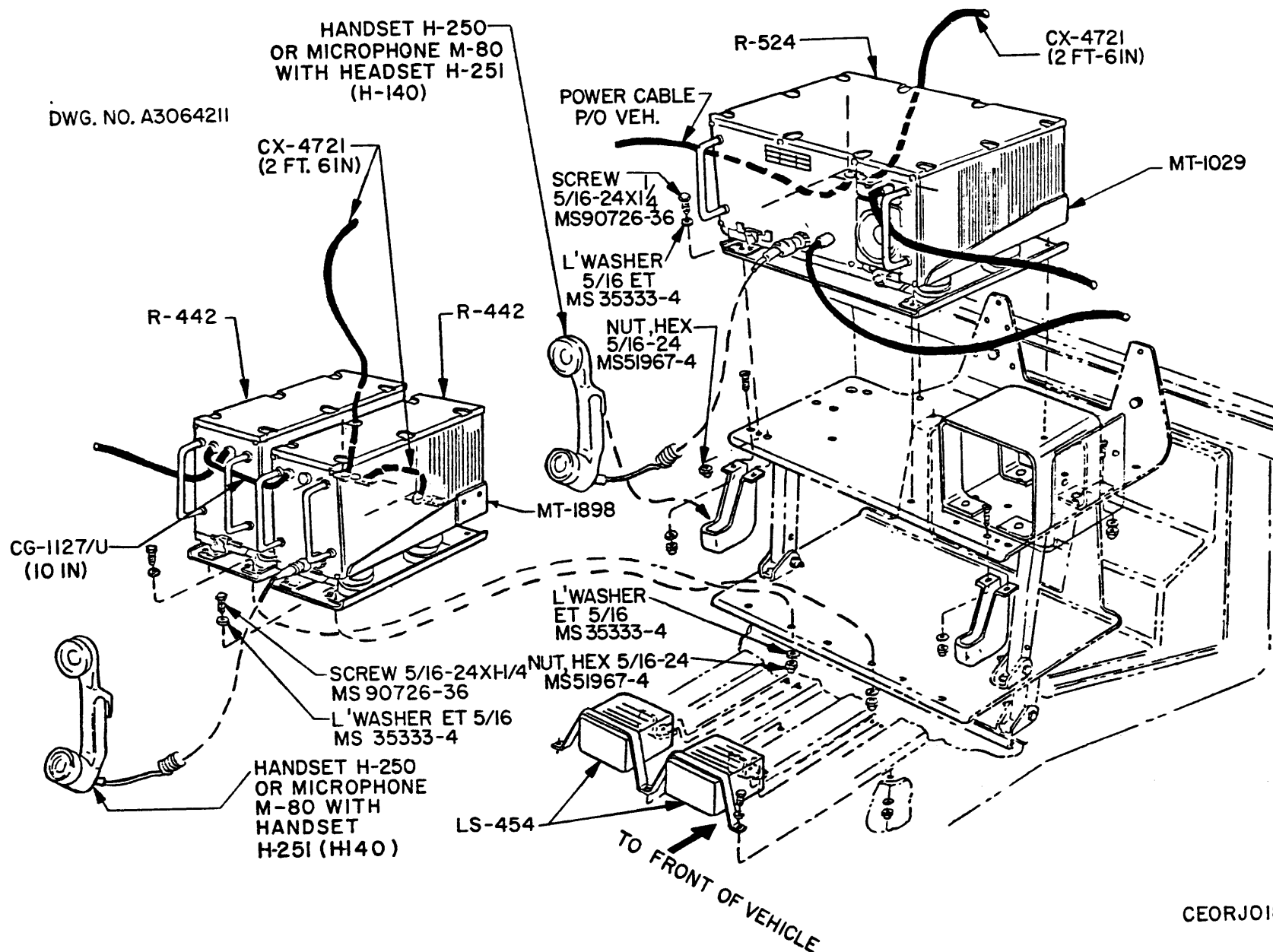
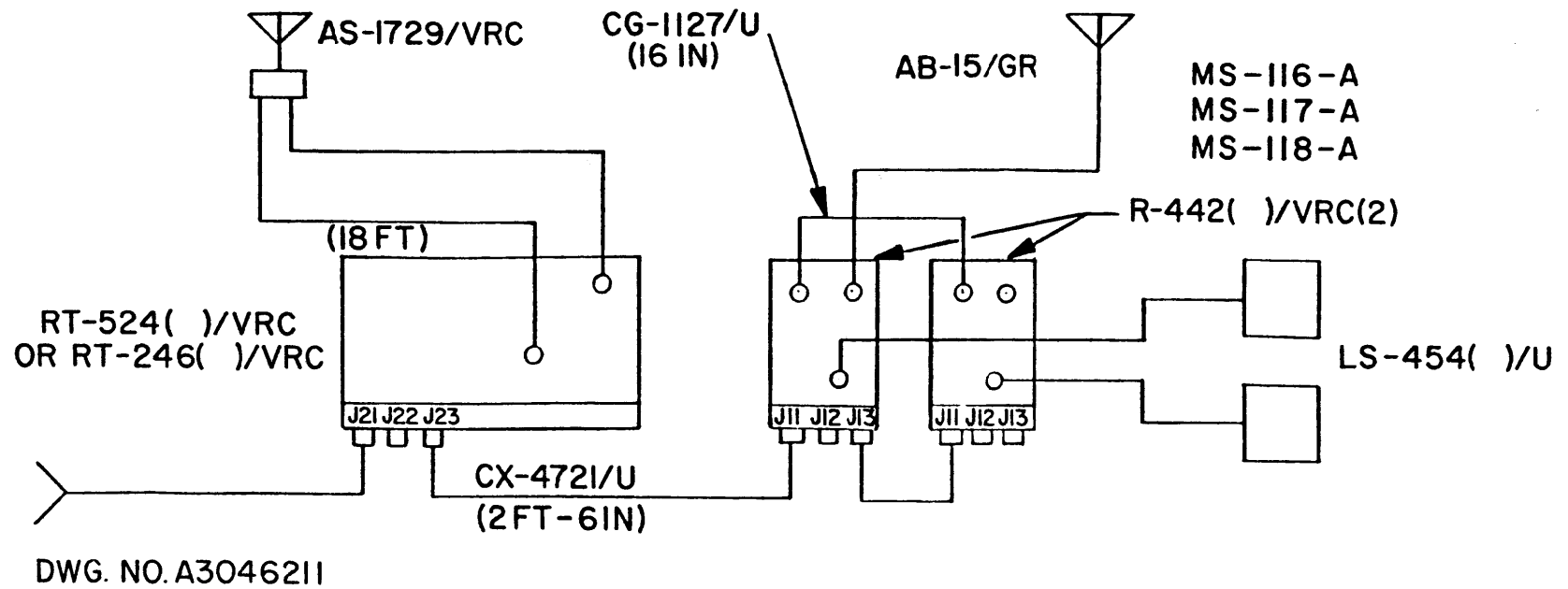


Figure 2-13-1. Transition Installation of AN/VRC-44 and AN/VRC-48
(Dwg No. A3064211) (Sheet 1 of 2).



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Figure 2-13-2. Transition Installation of AN/VRC-44 and AN/VRC-48
(Dwg No. A3064211) (Sheet 2 of 2).

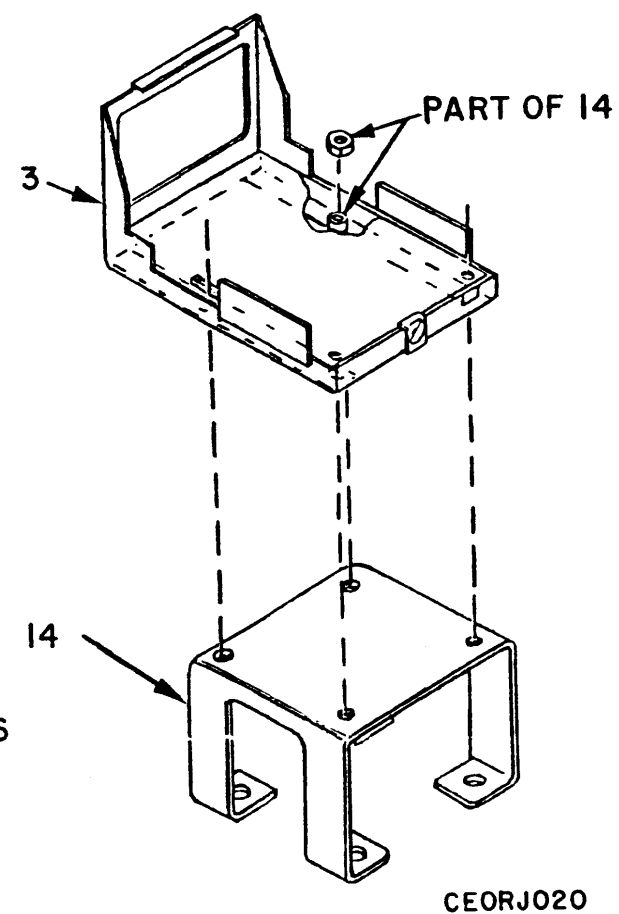
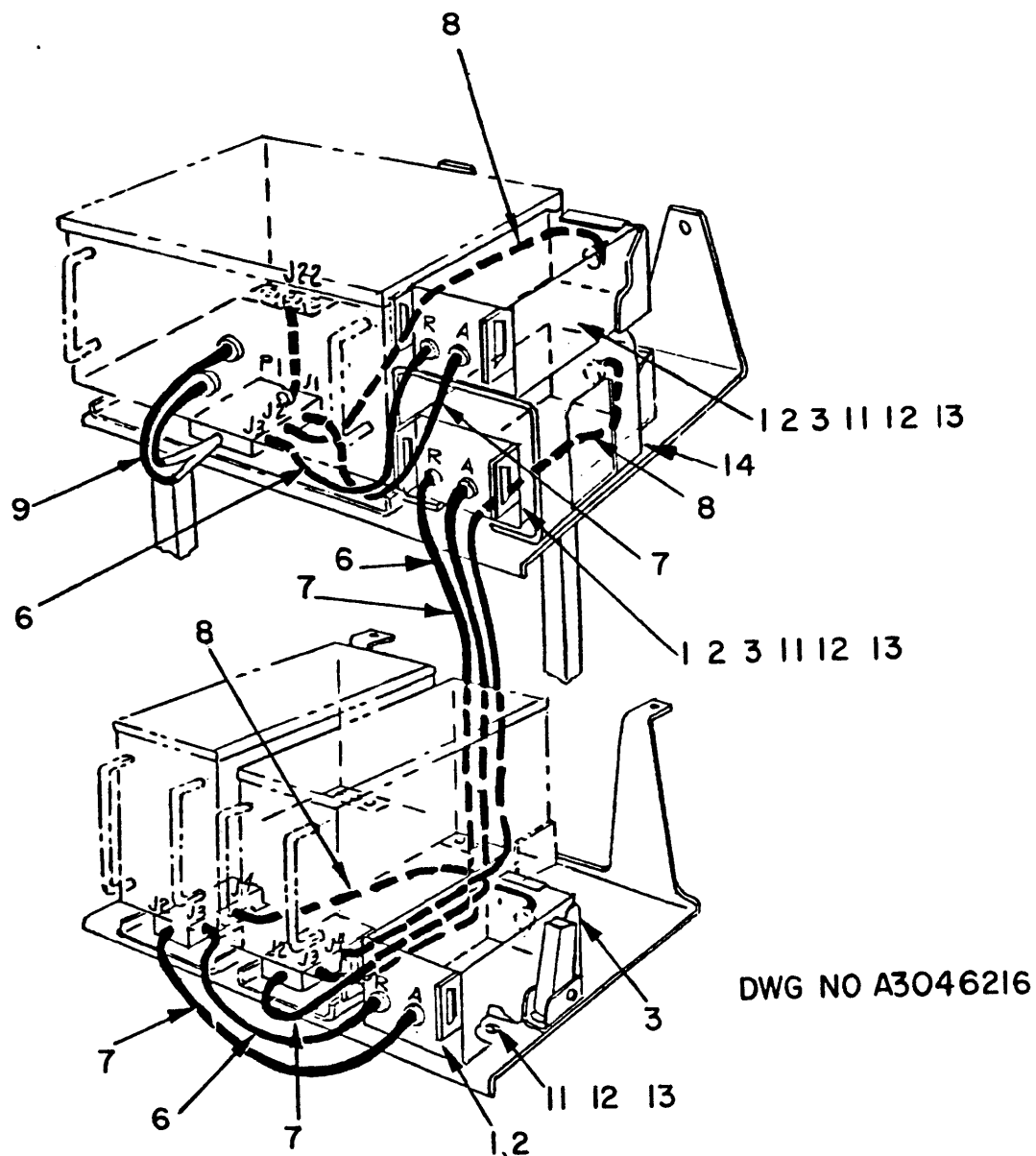


Figure 2-14-1. Installation of TSEC/KY-57 for AN/VRC-44 and AN/VRC-48 (Dwg No. A3046216) (Sheet 1 of 2).

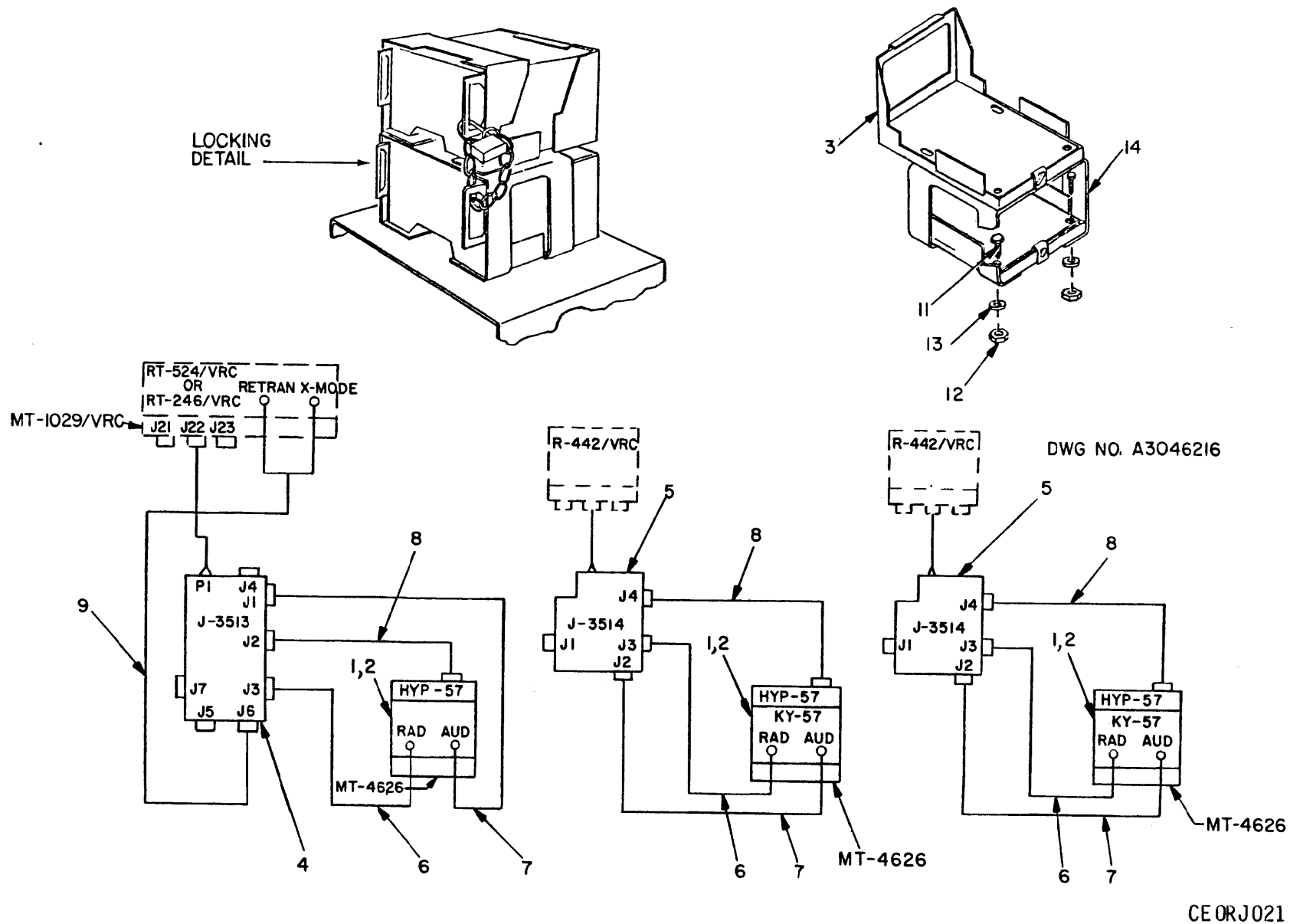


Figure 2-14-2. Installation of TSEC/KY-57 for AN/VRC-44 and AN/VRC-48 (Dwg No. A3046216) (Sheet 2 of 2).

m. Transition Installation of Radio Set AN/VRC-44 or AN/VRC-48 (Fig. 2-1) in HMMWV.

Refer to Drawing A3046211 (Fig. 2-13) and Items List, 1 above, to find out which items are recovered and retained from either the M151 or M561 to be used in the HMMWV. Install those items per Drawing A3046211 (Fig. 2-13). Kit 5596133 should be installed in the HMMWV prior to installing any of the recovered items from the displaced vehicle.

Step 1. Bolt Mount MT-1029/VRC and two Mounts MT-1898/VRC to the two front radio shelves as shown on Drawing A3046211 (Fig. 2-13) using 5/16" hardware provided.

Step 2. Install Antenna AS-1729/VRC (Figs. 2-2, 2-3, and 2-13) onto existing rear curbside antenna bracket using 3/8" hardware provided.

Step 3. Connect existing antenna cables, both radio frequency and control cables, to Antenna AS-1729/VRC.

Step 4. Install Antenna Mast Base AB-15/GR (Fig. 2-1) and antenna adapter to rear roadside antenna bracket. Add Mast Sections MS-118A, MS-117A, MS-116A, (Fig. 2-1) to Mast Base AB-15/GR.

Step 5. Connect radio frequency cable to Mast Base AB-15/GR.

Step 6. Connect existing power cable to J21 on Mount MT-1029/VRC. Refer to cording diagram on Drawing A3046211 (Fig. 2-13).

Step 7. Connect Cable Assembly CX-4721/VRC (2', 6") from J23 of Mount MT-1029/VRC to J11 of Mount MT-1898.

Step 8. Connect Cable Assembly CX-4721/VRC (1', 6") from J13 of first MT-1898/VRC to J11 of second MT-1898/VRC. Refer to cording Drawing A3046211 (Fig. 2-13).

Step 9. Install basic radio sets into MT-1029/VRC and Mounts MT-1898/VRC.

Step 10. Connect antenna cables to basic radio sets. Refer to cording diagram on Drawing A3046211 (Fig. 2-13).

n. Drawing A3046216 Item Names (Fig. 2-14).

Item No.	Name of Item	Qty	Req'd	Remarks
1	Security Equipment, TSEC/KY-57	3		Note 1
2	Vehicular Pwr Adapter HYP-57/TSEC	3		Note 1
3	Base, Mtg, Elec Equip MT-4626/VRC	3		DL-SC-B-884714
4	Interconnecting Box J-3513/U	1		DL-SC-B-930691
5	Interconnecting Box J-3514/U	2		DL-SC-B-930692
6	Cable Assy, Pwr Elec CX-13061/U (4 ft.)	3		SM-D-930682
7	Cable Assy, Pwr Elec CX-13062/U (4 ft.)	3		SM-D-930683
8	Cable Assy, Pwr Elec CX-13063/U (3 ft.)	3		SM-D-930684
9	Cable Assy, Pwr Elec CX-13064/U	1		SM-D-930685
10	Cable Clamp Kit, Univ	A/R		PPL 5170
11	Screw, Hex HD, 5/16-24x3/4 Lg	12		P/O 3
12	Nut, Hex 5/16-24	12		P/O 3
13	Washer, Lock I.E.T. 5/16	24		
14	Bracket, TSEC/KY-57 Mounting	1		P/O VEH

NOTES

1. Order items 1 and 2 from CECOM, Comm Security Logistics Activity (SELCL), Fort Huachuca, Arizona 85613.

2. Cut clamp strap material into required lengths for cable clamping.

3. Refer to Drawing SC-D-566285 for Interconnecting Box J-3514/U 3.

4. Refer to Drawing SC-D-366309 for Interconnecting Box J-3514/U 4.

o. Drawing A3046214, Transition Installation of Radio Set AN/VRC-49 (Fig. 2-15); and Drawing A3046215, Installation of TSEC/KY-57 for Combination with Radio Set AN/VRC-49 (Fig. 2-16) in Truck 1 1/4 ton HMMWV.

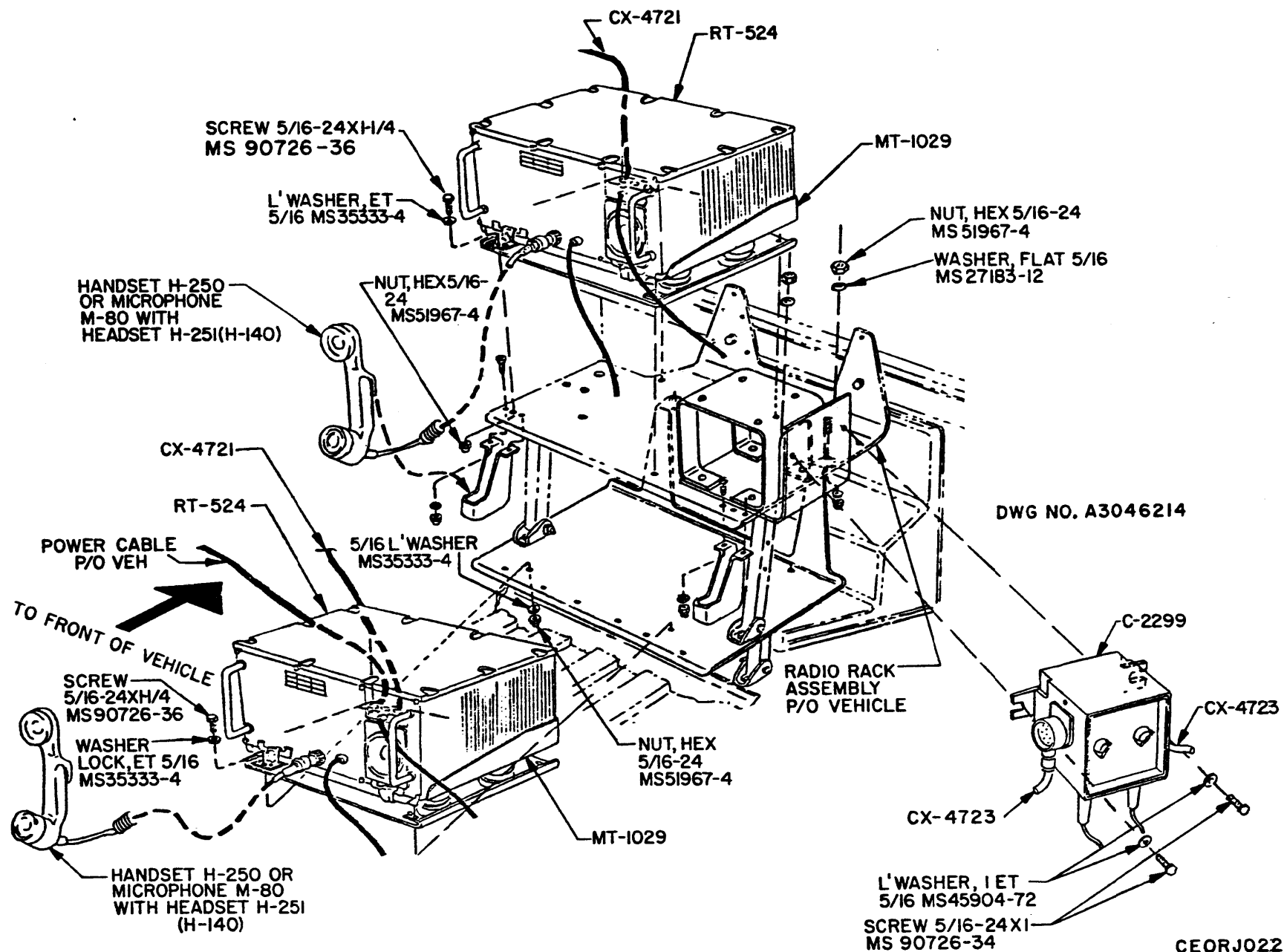
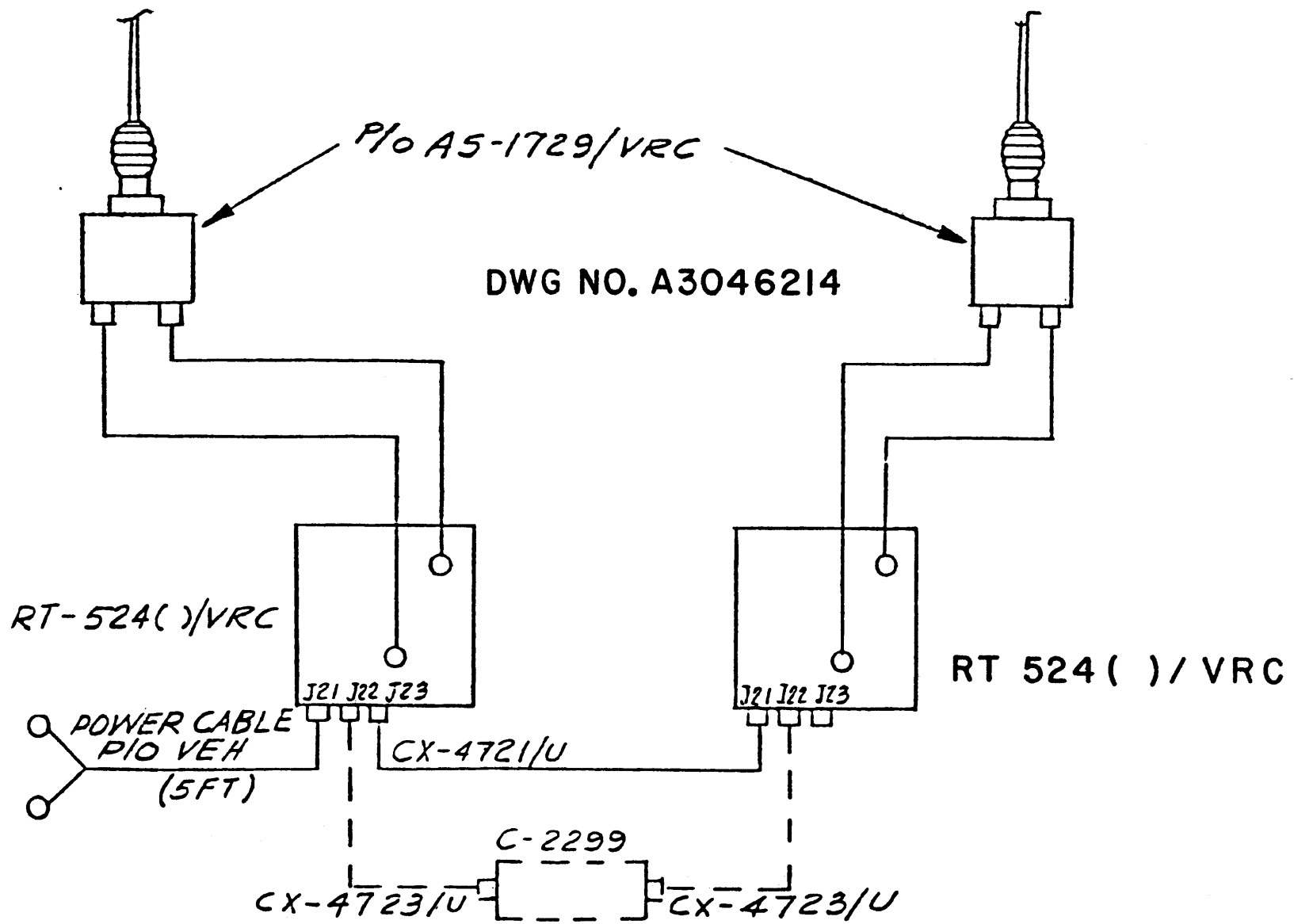
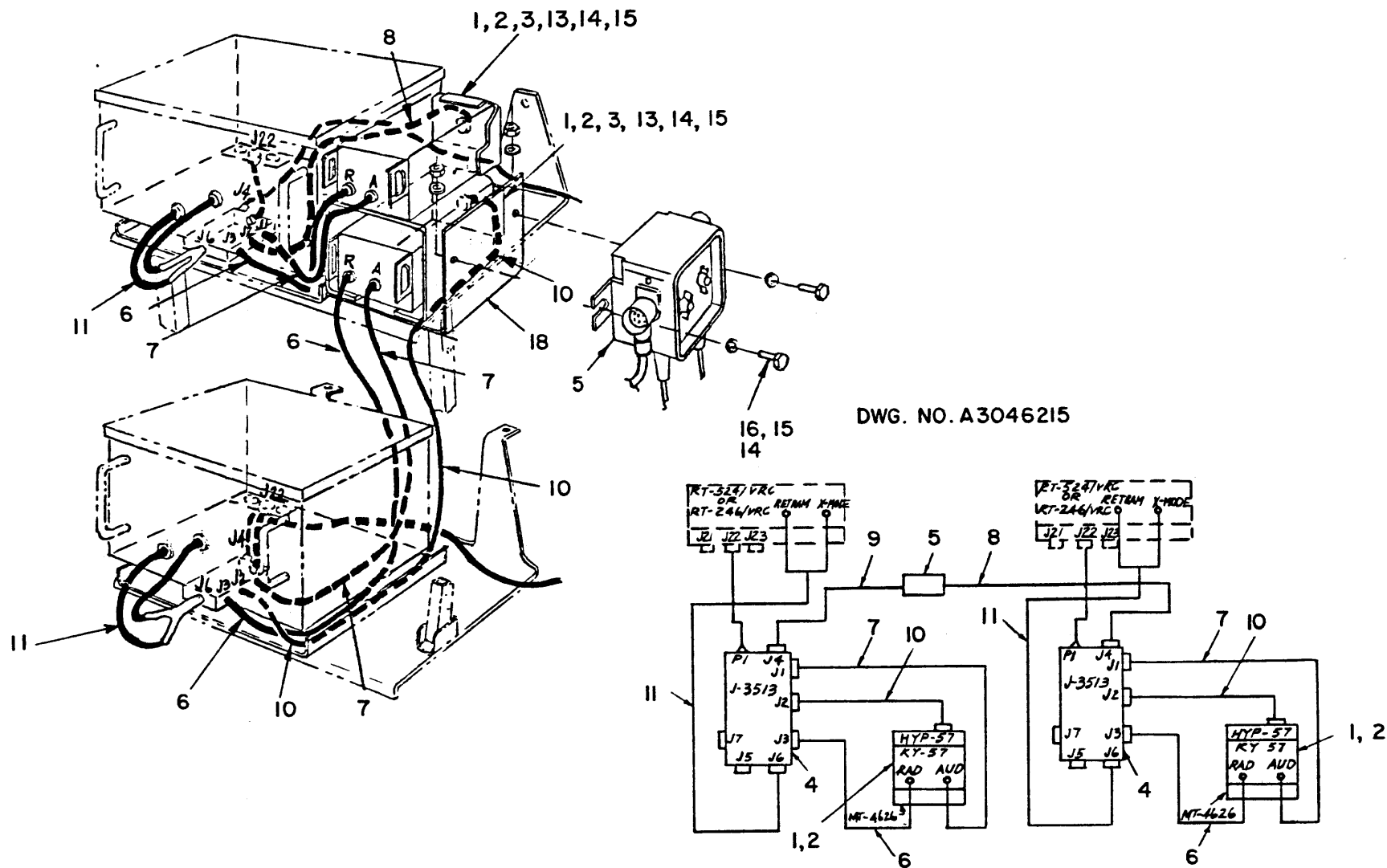


Figure 2-15-1. Transition Installation of AN/VRC-49 (Dwg No. A3046214)
(Sheet 1 of 2).



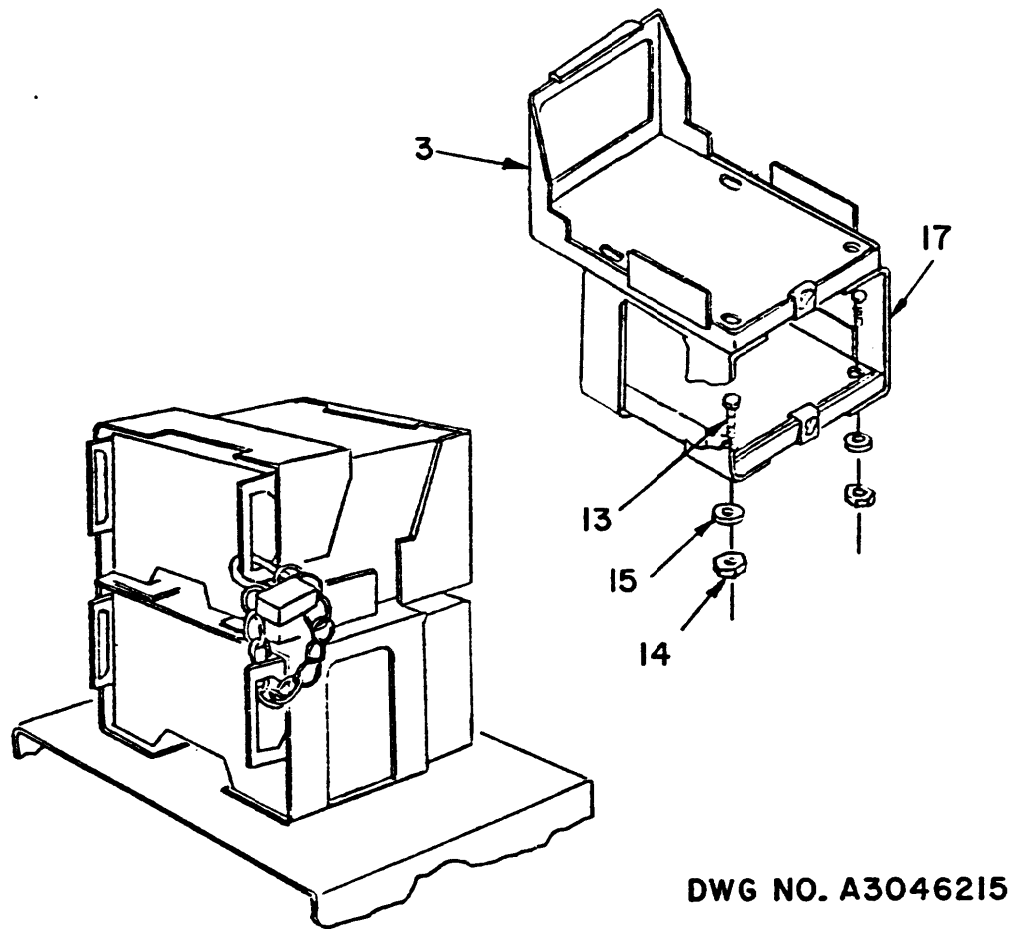
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Figure 2-15-2. Transition Installation of AN/VRC-49 (Dwg No. A3046214)
(Sheet 2 of 2).



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Figure 2-16-1. Installation of TSEC/KY-57 for Combination with AN/VRC-49 (Dwg No. A3046215) (Sheet 1 of 2).



LOCKING DETAIL

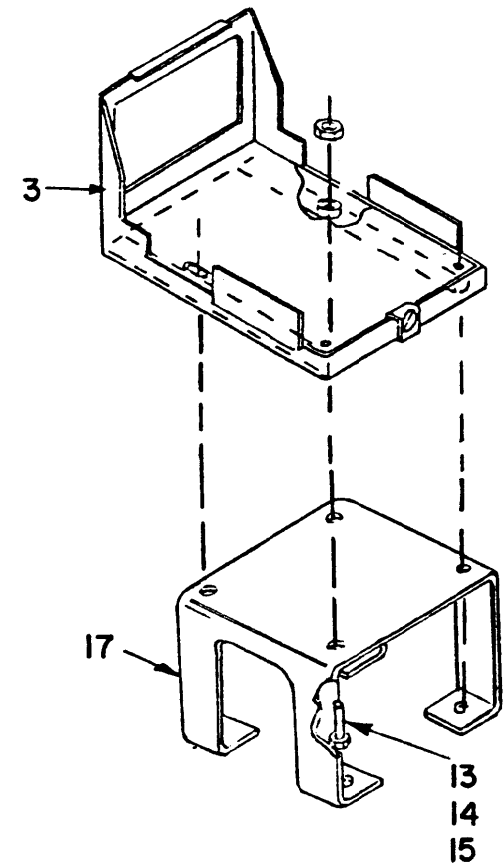


Figure 2-16-2. Installation of TSEC/KY-57 for Combination with AN/VRC-49
(Dwg No. A3046215) (Sheet 2 of 2).

p. Item List

Remove the following items from the M151/M561 and retain for use in the HMMWV.

COMPONENT		VRC-49
NSN	NOUN	QTY
5985-00-985-9024	AS-1729/VRC Antenna	2
5820-00-437-2353	Ant. Tip for AT-1095	2
5820-00-908-6416	Antenna Tie down	2
5820-00-892-3340	C-2299	1
5995-00-823-2912	CX-4721 (10 ft.)	1
5995-00-823-2833	CX-4723 (5 ft.)	1
5995-00-823-2836	CX-4723 (9 ft.)	1
5965-00-043-3463	Handset (H-250)	1
5965-00-043-3460	Headset H-251 (H-140)	1
5820-00-893-1323	MT-1029/VRC	2
5965-00-179-7762	Microphone M-80	1
All COMSEC Vinson Equipment		X

NOTE

NSNS may have been superseded in the AMDF by later versions.

q. Transition Installation of Radio Set AN/VRC-49 (Fig. 2-3) in HMMWV.

Refer to Drawing A3046214 (Fig. 2-15) and Items List, p. above, to find out which items are recovered and retained from either the M151 and M561 to be used in HMMWV. Install those items per Drawing A3046214 (Fig. 2-15). Kit 5596133 should be installed in the HMMWV prior to installing any of the recovered items from the displaced vehicles.

Step 1. Bolt Mount MT-1029/VRC to the two front radio shelves as shown on Drawing A3046214 (Fig. 2-15) using 5/16" hardware provided.

Step 2. Install Antenna AS-1729/VRC (Fig. 2-2, 2-3, and 2-15) onto existing rear curbside antenna bracket using 3/8" hardware provided.

Step 3. Install Antenna AS-1729/VRC onto rear roadside antenna bracket using 3/8" hardware provided.

Step 4. Connect antenna cables, radio frequency and control cable, to each Antenna AS-1729/VRC.

Step 5. Connect Cable Assembly CX-4721/VRC from J23 on top shelf MT-1029/VRC to J21 on lower shelf MT-1029/VRC.

NOTE

This cable is 10' long and should be coiled. A 2' 6" Cable CX-4721/U, NSN 5995-00-823-2725, should be requisitioned and when available should replace the 10' cable.

Step 6. Install basic radio set into each MT-1029/VRC.

Step 7. Connect antenna cables to the radio sets. Refer to cording diagrams on Drawing A3046214 (Fig. 2-15).

Step 8. Bolt Control Box C-2299/VRC (Fig. 2-3) to the mounting bracket using 5/16" hardware as shown on Drawing A3046214 (Fig. 2-15) (Retransmission Installation).

Step 9. Connect the two Cable Assemblies CX-4723/VRC from J22 on each MT-1029/VRC to Control Box C-2299/VRC (Retransmission Installation).

NOTE

If CX-4723/VRC is 9' in length, the excess length should be coiled. A 3' Cable CX-4723/VRC should be requisitioned and when available should replace the 9' cable.

r. Drawing A3046215 Item Names (Fig. 2-16).

Item No.	Name of Item	Qty	Req'd
1	Security Equipment, TSEC/KY-57	2	Note 1
2	Vehicular Pwr Adapter, HYP-57/TSEC	2	Note 1
3	Base, Mtg, Elec Equip MT-4626/VRC	2	DL-SC-B-884714
4	Interconnecting Box J-3513/U	2	DL-SC-B-930691
5	Control Box C-10374/VRC	1	
6	Cable Assy, Pwr Elec CX-13061/U (4 ft.)	2	SM-D-930682
7	Cable Assy, Pwr Elec CX- 3062/U (4 ft.)	2	SM-D-930683
8	Cable Assy, Pwr Elec CX- 3068/U (9 ft.)	1	
9	Cable Assy, Pwr Elec CX- 3068/U (3 ft.)	1	
10	Cable Assy, Pwr Elec CX- 3063/U (3 ft.)	2	SM-D-930684
11	Cable Assy, Pwr Elec CX- 3064/U	2	SM-D-930685
12	Cable Clamp Kit, Univ	AIR	PPL 5170
13	Screw, Hex HD, 5/16-24x3/4 Lg	12	P/O 3
14	Nut, Hex 5/16-24	14	P/O 3
15	Washer, Lock I.E.T. 5/16	28	
16	Screw, Hex HD 5/16-24x1 Lg	2	
17	Bracket SEC/KY-57 mounting	1	
18	Retransmission mounting bracket	1	

NOTES

1. Order items 1 and 2 from CECOM, Comm Security Logistics Activity (SELCL), Fort Huachuca, Arizona 85613.
2. Cut clamp strap material into required lengths for cable clamping.
3. Refer to Drawing SC-D-566285 for Interconnecting Box 3.
4. Replace Control Box C-2299/VRC and Cable Assembly CX-4723/VRC with items 5, 8, and 9.

Drawing A3046155, Installation of Radio Set AN/GRC-106 and AN/GRC-106A (Fig. 2-17) in Truck, Cargo 1 1/4 Ton HMMWV.

t. Items List

Remove the following items from M151/M561 and retain for use in HMMWV.

COMPONENT		GRC-106, -106A
NSN	NOUN	QTY
5820-00-078-4770	AB-652/GRC Mast Base	1
5935-00-930-7223	Ant. Tip for MS-118A	1
5820-00-078-4769	Antenna Cover	1
5820-00-571-1828	Antenna Sheath Clamp	1
5820-00-908-6416	Antenna Tiedown	1
5995-00-170-5573	Bonding Jumper	1
5995-00-985-8005	CG-10099/U (7 in.)	1
5995-00-235-5047	CG-409G/U (6 in.)	2
5995-00-138-8649	cx-l0171/u (4 ft.)	1
5820-00-226-5727	Cross Bar Assy (long)	2
5820-00-930-1999	Ground Rod Assy	1
5965-00-243-6420	LS0166/U Loudspeaker	1
5820-00-764-5760	Lead-in Support Kit	1
5820-00-078-5614	MT-3140/GRC	1
5985-00-238-7474	Mast Section	1
5985-00-115-7149	Mast Section	1
5820-00-199-8831	Mast Section	3
5820-00-930-1998	Antenna Guard Assy	1

NOTE

NSNS may have been superseded in the AMDF by later versions.

u. Installation of Radio Set AN/GRC-106 and AN/GRC-106A in HMMWV.

Refer to Drawing A3046155 (Fig. 2-17) and Items List t. above to find out which items are recovered and retained from either the M151 or M561 to be used in HMMWV. Install those items per Drawing A3046155 (Fig. 2-17).

Step 1. Install radio plate assembly on roadside sponson (Fig. 2-17, sheet 2) by alining slotted holes of plate with existing bolt holes on sponson and mounting with 1/4 inch hardware. If troop seat exists: remove seat, install plate, and replace seat.

Step 2. Install bonding jumper assembly.

Step 3. Bolt lead in insulator assembly to antenna mount weldment. Bolt antenna mount weldment to roadside rear of vehicle. If troop seat exists, bolt antenna mount offset to weldment and install lead-in support assembly in offset (Fig. 2-17, sheet 3).

Step 4. Install Mounting Base MT-3140()/GRC-106, Receiver/Transmitter RT-662()/GRC or RT-834()/GRC, and Amplifier AM-3349()/GRC-106 on radio plate assembly then install Cables CX-10099/U and CG-409G/U as shown in figure 2-17, sheet 1.

Step 5. Cut cable clamping material into required lengths and locate per figure 2-17, sheet 1.

Step 6. Drill a 1-1/4 inch hole in battery compartment (Fig. 2-17, sheet 1) and install grommet material.

Step 7. Route and clamp CX-10071/U Cable Assemblies from RT unit and amplifier to battery compartment (Fig. 2-17, sheet 1).

CAUTION

Be careful to drill only deep enough to break through vehicle floor.

Step 8. Locate guard assembly over cable assemblies across vehicle floor then drill ten 0.159 diameter (No. 21 drill) holes through guard and raised channels of vehicle floor.

CAUTION

Insulated wires go to positive terminal.

Step 9. Trim CX-10D71/U Cable Assemblies to length, crimp and solder terminal lugs onto battery end of cable, then connect lugs to battery terminals as shown on figure 2-17, sheet 2.

Step 10. Locate and mount lead-in insulator assembly on canvas top (Fig. 2-17, sheet 2). Cut out inner canvas disc.

Step 11. Keeping conductor of Lead CX-10171/U at least 1 inch from all metal, route and cut lead to required length. Tin end for antenna connection.

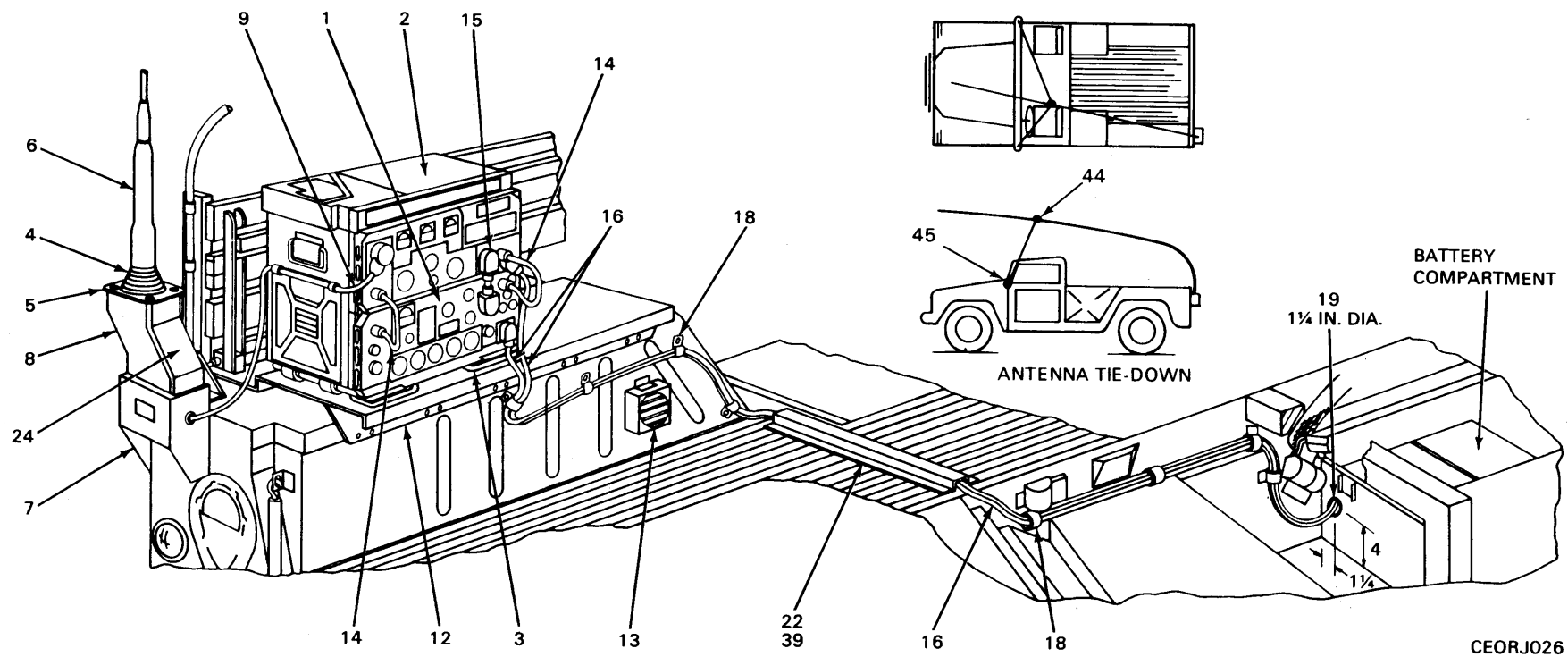
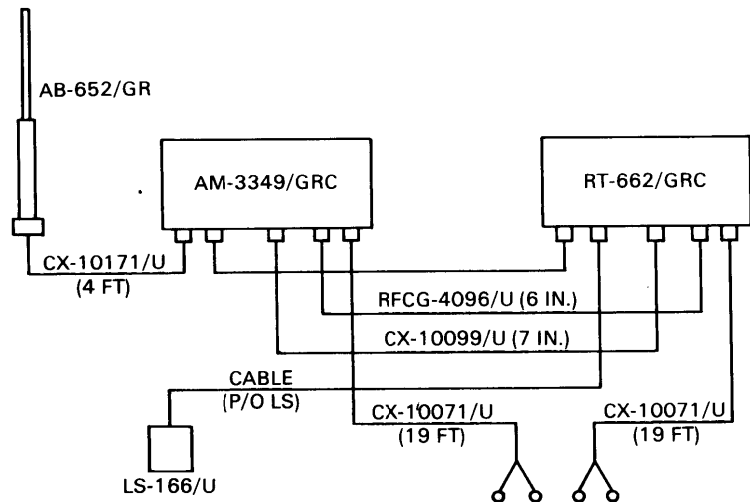
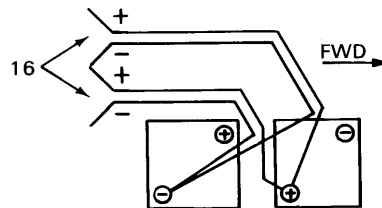
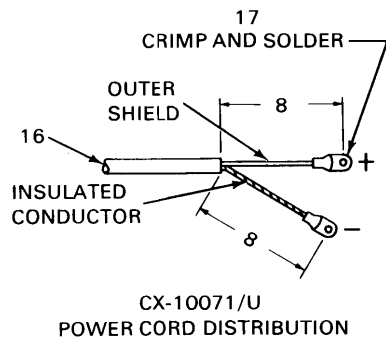


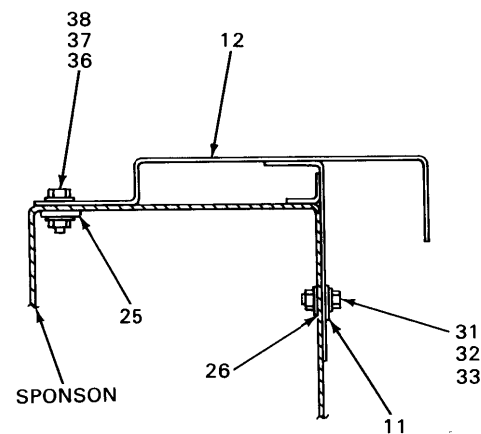
Figure 2-17-1. Installation of AN/GRC-106 and AN/GRC-106A (Dwg. No. A3046155) (Sheet 1 of 3)



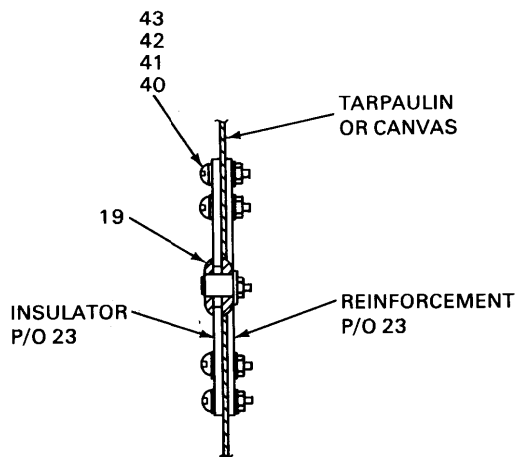
CORDING DIAGRAM



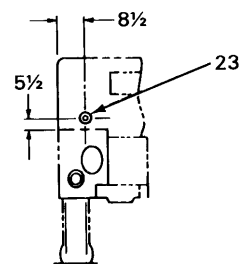
BATTERY COMPARTMENT CONNECTIONS



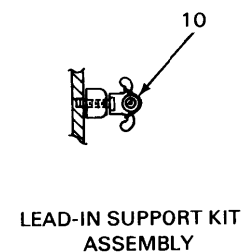
APPLICATION OF SHELF TO ROADSIDE SPONSON



LEAD-IN INSULATOR ASSEMBLY



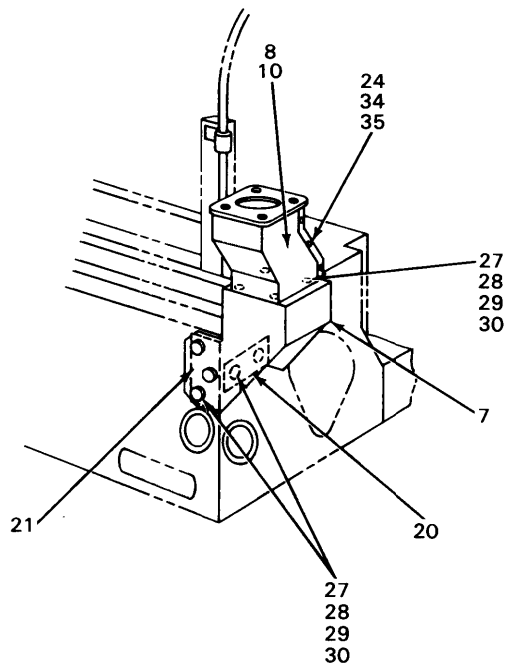
LOCATION OF LEAD-IN INSULATOR ASSEMBLY (WITH CANVAS TOP)



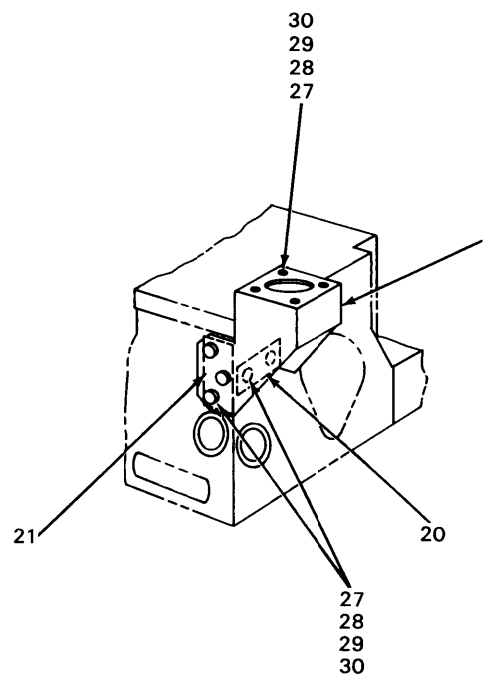
LEAD-IN SUPPORT KIT ASSEMBLY

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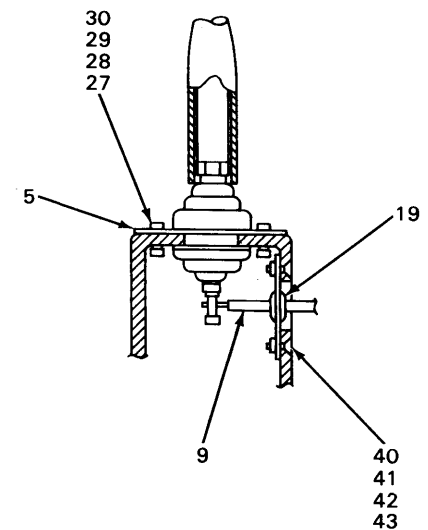
Figure 2-17-2. Installation of AN/GRC-106 and AN/GRC-106A (Dwg. No. A3046155) (Sheet 2 of 3)



ANTENNA MOUNT APPLICATION
WITH SEAT RACK IN PLACE USING
OPTIONAL MOUNT OFFSET



ANTENNA MOUNT
W/SEAT RACK REMOVED



ANTENNA INSTALLATION

CE04J028



Figure 2-17-3. Installation of AN/GRC-106 and AN/GRC-106A (Dwg. No. A3046155) (Sheet 3 of 3)

Step 12. Install antenna base adapter to antenna mount weldment. Install Mast Base AB-652/GR, antenna cover, Mast Sections MS-116A (3 each), MS-117A, and MS-118A, and antenna tip assembly to antenna base adapter.

Step 13. Using existing 1/4 in. bolts, mount loop clamps to front door hinges on both sides of vehicle. Tie antenna down with tie down kit as shown on figure 2-17, sheet 1.

Step 14. Using Loudspeaker LS-166/U as a template, locate and drill two 9/32-inch diameter holes in sponson as shown in figure 2-17, sheet 1.

Step 15. Mount loudspeaker and, routing its cable with the CX-10071/U Cables, connect to the RT Unit.

v. Drawing A3046155 Item Names (Fig. 2-17)

Item No.	Name of Item	Qty.	Req 'd	Remarks
1	Receiver/Transmitter RT-662()/GRC or RT-834()/GRC	1		
2	Amplifier, RF AM-3349()/GRC-106	1		
3	Mounting Base MT-3140()/GRC-106	1		
4	Mast Base AB-652/GR	1		SC-DL-49678
5	Adapter, Antenna Base	1		SC-C-160410
6	Antenna Cover	1		
7	Antenna Mount Weldment	1		A3046272
8	Antenna Mount Offset	1		A3046223
9	Lead, Electrical CX-10171/U (4 ft.)	1		
10	Lead-In Support Kit (AN/GRC-106)	2		PPL3679
11	Bonding Jumper, Group 4	1		SC-B-27840
12	Radio Plate Assembly	1		A3046228
13	Loudspeaker, Dynamic LS-166/U	1		
14	Cable Assembly, RF CG-409G/U (6 in.)	2		SC-DL-157329
15	Cable Assembly, S. P. Electrical CX-10099/U (7 in.)	1		
16	Cable Assembly, S. P. Electrical CX-10071/U (19 ft.)	2		SC-C-52115
17	Terminal Lug (for 3/8 stud)	4		SM-B-500422
18	Cable Clamping Kit, Universal	1		PPL5170
19	Grommet			
20	Backing Plate, Antenna Bracket	1		A3046207
21	Backing Plate, Antenna Weldment	1		A3046222
22	Guard Assembly	1		SC-D-75288
23	Lead-In Insulator Assembly	1		SC-C-169045
24	Cover, Antenna Mount	1		A3046219
25	Backing Plate (P/O Vehicle)	1		
26	Backing Plate (P/O 12)	1		
27	Screw, Hex Hd, 3/8-16 x 1 3/4 Lg	13		MS90725-65
28	Washer, Flat 3/8	26		MS27183-14
29	Nut, Hex 3/8-16	13		MS35690-602
30	Washer, Lock, Split 13/32 I.D.	13		MS35338-27
31	Screw, Cap, Hex Hd, 5/16-24 x 3/4 Lg	10		MS90726-32
32	Nut, Hex 5/16-24	10		MS35690-522
33	Washer, Lock ET 5/16	20		MS35335-6

Drawing A3046155 Item Names (Fig. 2-17) - Continued

Item No.	Name of Item	Qty. Req 'd	Remarks
34	Bol t 5/16-18 X 1 Lg	4	MS90725-34
35	Washer, Lock 5/16	4	MS35338-45
36	Screw, Hex Hd, Cap 1/4-20 x 1 Lg	10	MS90725-8
37	Nut, Hex 1/4-20	10	MS51967-1
38	Washer, Flat 1/4	20	MS27183-10
39	Screw, Self Tapping, Type A #10 x 1/2 Lg	10	MS24673-34
40	Screw, Pan Hd, Machine 6-32 x 1/2 Lg	8	MS35206-230
41	Screw, Pan Hd, Machine 6-32 x 3/4 Lg	8	MS35206-232
42	Nut, Hex 6-32	16	MS35469-62
43	Washer, Flat 6	32	MS15795-206
44	Antenna, Tie-Down Kit	1	SC-C-208747
45	Clamp, Loop	2	MS21333-102
	Mast Section MS-116A	3	
	Mast Section MS-117A	1	
	Mast Section MS-118A	1	
	Antenna Tip Assembly	1	SC-C-446046

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